

Laboratories Receiving MAPEP Water Standard

AALI01	Accra Analytical Laboratory, Inc
ADEM01	Alabama Department of Environmental Management
AFOH01	AFIOH/SDRR
ANLA01	Argonne National Laboratory/Analytical Chemistry Lab.
ANLB01	Argonne National Laboratory
ANTE01	Paragon Analytics a Division of DataChem Laboratories, Inc.
ARGO01	Idaho National Laboratory
ARPL01	Analytical Support Operations - Radiochemical Processing Lab
ARSL01	American Radiation Services Inc.
ATLI01	ATL International, Inc.
AY1201	BWXT Y-12, Analytical Chemistry Organization Laboratory
BNEL01	Northeast Laboratory Services, Inc.
CDHS01	California Department of Health Services
CESL01	Lawrence Livermore National Laboratory - EMRL
CHMH01	222-S Laboratory
CMRC01	Carlsbad Environmental Monitoring and Research Center
CORE02	STL Denver
DAFI01	Davis & Floyd, Inc.
DBCL01	Durateck, Inc. - Bear Creek Lab
DEHS01	Department of Environmental Health & Safety
EANR99	The Supreme Council for the Environment and Natural Resources
EMBW01	CH2M Hill, Mound Inc., Mound, Environmental Monitoring
ENES01	Energy Northwest Environmental Services
EPAL01	U. S. EPA Office of Radiation and Indoor Air
ERAD01	Lawrence Livermore National Laboratory ERAD
ERCL01	Public Health Laboratories
ERHD99	Radiation Protection Bureau ERHD NMS
ERLG01	Environmental Radiation Laboratory
ERPD99	Environmental Radiation Protection Division
ESDE01	Region 5 EQC Tritium Lab
ETTP01	ETTP
FDHE01	Florida Dept of Health Environmental Laboratory
FDOH01	Florida Dept. of Health, Mobile Environmental Radiological Lab
FERM01	Fluor Fernald
FNAL01	Fermi National Accelerator Laboratory (FermiLab)
FSCL01	Lawrence Livermore Laboratory
GENE01	General Engineering Laboratories, LLC
GPCL01	Georgia Power Company Environmental Laboratory
GPLP01	GPL Laboratories, LLLP
GROW01	FGL Environmental
HCAL01	Hazards Control Analytical Lab
HERR01	Washington Closure Hanford
HWRL01	Lawrence Livermore National Laboratory - HWRL
IAEA99	International Atomic Energy Agency
IDGR01	Oak Ridge National Laboratory-Internal Dosimetry Group
ISUP01	ISU - Department of Physics/Health Physics/EAL

JAEC99	Radiation Measurements Laboratory
JLNN01	Jefferson Laboratory
KAST99	Environmental Studies Laboratory
LANL01	Los Alamos National Laboratory
LAWR01	LAWRENCE BERKELEY NATIONAL LABORATORY
LAWR02	Lawrence Livermore National Laboratory
LOCK01	ICP Analytical Laboratories Department
LOCK03	RADIATION MEASUREMENTS LABORATORY/AEDL
MART01	USEC, Inc.
MART02	United States Enrichment Corporation
MART03	Radioactive Material Analysis Laboratory
MDPH01	MDPH-Radiation Control Program
NARL01	National Air and Radiation Environmental Laboratory
NESI01	BWXT Services-Nuclear Environmental Laboratory Services
NJDH01	New Jersey Dept. of Health & Senior Services, PHEL, ECLS
NMLA01	Assaigai Analytical Laboratories
NRLL99	National Radiation Laboratory
NTSI01	Nuclear Technology Services, Inc.
OBGL01	O'Brien & Gere Laboratories, Inc.
ODHL01	Ohio Department of Health Laboratory
ORIS01	ORISE/ESSAP
OTLI01	Outreach Technologies, Inc.
PBRF01	NASA Plum Brook Reactor Facility Lab
PESL01	Environmental Science Lab PNNL/ESL
QUAN01	STL St. Louis
QUAN02	STL Knoxville
QUAN03	SEVERN TRENT LABORATORIES RICHLAND
RECC01	GEL Laboratories of Ohio, LLC
RMCL99	Royal Scientific Society - Radiation Measurements Lab
RPSC01	Radiation Protection Service
RSAL01	RSA Laboratories, Inc.
RSIR99	Instituto de Radioprotecao e Dosimetria
SAVA01	WSRC/SAVANNAH RIVER NATIONAL LABORATORY/ADS
SCAL01	Sanford Cohen and Associates, Inc.
SECRA01	SECRA 3005 Count Lab - ORNL
SEML01	SRS Environmental Monitoring Laboratory
SIHA01	Sandia National Lab - Industrial Hygiene Analytical Chemistry Lab
SLAC01	SLAC
SLDL01	Scientific Laboratory Division
SNRC99	Soreq NRC
SOUT01	Southwest Research Institute
SRPD01	Sandia National Laboratories, Radiation Protection Sample Diagnostics
SSFL01	Santa Susana Field Laboratory
TDHL01	Texas Department of State Health Services Laboratory
TELE01	TELEDYNE BROWN ENGINEERING - ENVIRONMENTAL SERVICES
TELE02	Environmental, Inc., Midwest Lab
TMAE01	Eberline Services, Inc.
TMAO01	EBERLINE SERVICES OAK RIDGE LABORATORY

TMAR01	Eberline Services
TNUT01	FUSRAP
UQNP99	University of Qatar - Nuclear Physics Lab
UTSG01	UniTech Services Group
WEST01	Lionville Laboratory Incorporated
WEST03	Waste Sampling and Characterization Facility
WEST04	PACE ANALYTICAL SERVICES WALTZ MILL SITE
WIPH01	WI, DPH, Radiation Protection Section
WIPP01	WIPP Laboratories
WSHL01	Wisconsin State Laboratory of Hygiene
WVDP01	WVDP Environmental Laboratory
WVNS01	West Valley Nuclear Services
YAEC01	Framatome ANP Environmental Laboratory
YPGA01	US Army Yuma Proving Ground / Material Analysis Lab

Labs Not Reporting MaW

LAB_CODE LAB_NAME

ANLA01	Argonne National Laboratory/Analytical Chemistry Lab.
DBCL01	Durateck, Inc. - Bear Creek Lab
EANR99	The Supreme Council for the Environment and Natural Resource
EMBW01	CH2M Hill, Mound Inc., Mound, Environmental Monitoring
ENES01	Energy Northwest Environmental Services
ERAD01	Lawrence Livermore National Laboratory ERAD
HERR01	Washington Closure Hanford
KAST99	Environmental Studies Laboratory
LANL01	Los Alamos National Laboratory
PESL01	Environmental Science Lab PNNL/ESL
SECR01	SECRA 3005 Count Lab - ORNL
SSFL01	Santa Susana Field Laboratory
UQNP99	University of Qatar - Nuclear Physics Lab

Mixed Analyte Performance Evaluation Program

Statistical Summary Mixed Analyte Water Standard

Sample ID: MAPEP-05-MaW14

Analyte	T(1)	A(2)	Grand Mean	Std. Dev.	Reference Value	Analyte Text	Acceptance Limits	Units
Aluminum	1							
Antimony	33	33	1.76	0.08	1.77		1.24 - 2.30	(mg/L)
Arsenic	34	34	2.01	0.12	2.04		1.43 - 2.65	(mg/L)
Barium	34	32	16.64	0.69	16.34		11.44 - 21.24	(mg/L)
Beryllium	34	34	1.29	0.09	1.276		0.89 - 1.66	(mg/L)
Cadmium	30	28				False Positive Test		
Calcium	1							
Chromium	34	34	1.28	0.06	1.27		0.89 - 1.65	(mg/L)
Cobalt	2							
Copper	33	33	3.77	0.17	3.80		2.66 - 4.94	(mg/L)
Iron	1							
Lead	30	28				False Positive Test		
Magnesium	1							
Manganese	2							
Mercury	30	28	0.01	0.00	0.00885		0.01 - 0.01	(mg/L)
Molybdenum	1							
Nickel	34	33	1.43	0.06	1.457		1.02 - 1.89	(mg/L)
Potassium	2							
Selenium	34	34	0.43	0.04	0.443		0.31 - 0.58	(mg/L)
Silver	26	26				False Positive Test		
Sodium	1							
Thallium	33	32	4.93	0.18	4.97		3.48 - 6.46	(mg/L)
Uranium-Total	11	10	0.34	0.02	0.344		0.24 - 0.45	(mg/L)
Uranium-234	1							
Uranium-235	4	4	0.00	0.00	0.00248		0.00 - 0.00	(mg/L)
Uranium-238	6	6	0.33	0.02	0.342		0.24 - 0.44	(mg/L)
Vanadium	33	33	0.88	0.05	0.876		0.61 - 1.14	(mg/L)
Zinc	33	32	4.55	0.26	4.57		3.20 - 5.94	(mg/L)
Americium-241	50	47	2.12	0.14	2.23		1.56 - 2.90	(Bq/L)
Cesium-134	78	78	154.05	11.10	167		116.90 - 217.10	(Bq/L)
Cesium-137	80	80	324.01	14.99	333		233.10 - 432.90	(Bq/L)
Cobalt-57	79	76	274.74	13.67	272		190.40 - 353.60	(Bq/L)
Cobalt-60	80	80	259.67	10.80	261		182.70 - 339.30	(Bq/L)
Hydrogen-3	58	54	523.99	43.81	527		368.90 - 685.10	(Bq/L)

Note: Outliers are excluded from the statistical summary.

Outliers are defied as laboratory data with a bias greater than 30 percent.

(1) T = Total Number of Laboratories Reporting Analyte.

(2) A = Number of Laboratories with 'Acceptable' Performance.

Analyte	T(1)	A(2)	Grand Mean	Std. Dev.	Reference Value	Analyte Text	Acceptance Limits	Units
Iron-55	12	10	192.05	19.31	196		137.20 - 254.80	(Bq/L)
Manganese-54	79	79	414.93	21.30	418		292.60 - 543.40	(Bq/L)
Nickel-63	19	15	105.63	11.69	100		70.00 - 130.00	(Bq/L)
Plutonium-238	46	45	1.66	0.12	1.67		1.34 - 2.48	(Bq/L)
Plutonium-239/240	46	45	2.37	0.19	2.45		1.92 - 3.58	(Bq/L)
Strontium-90	47	42	8.76	0.96	8.98		6.29 - 11.67	(Bq/L)
Technetium-99	30	28	65.27	5.80	66.5		46.55 - 86.45	(Bq/L)
Uranium-234/233	48	47	4.03	0.32	4.1		2.87 - 5.33	(Bq/L)
Uranium-235	3							
Uranium-238	50	49	4.18	0.34	4.26		2.98 - 5.54	(Bq/L)
Zinc-65	78	78	345.92	17.80	330		231.00 - 429.00	(Bq/L)

Note:

Outliers are excluded from the statistical summary.
 Outliers are defied as laboratory data with a bias greater than 30 percent.
 (1) T = Total Number of Laboratories Reporting Analyte.
 (2) A = Number of Laboratories with 'Acceptable' Performance.

Mixed Analyte Performance Evaluation Program

Laboratory Results

AALI01

Accra Analytical Laboratory, Inc
6017 Financial Drive

Sample ID: MAPEP-05-MaW14

	Norcross	GA	30071	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.71	1.77	A		-3.4	1.24 - 2.30			(mg/L)
Arsenic	1.99	2.04	A		-2.5	1.43 - 2.65			(mg/L)
Barium	16.2	16.34	A		-0.9	11.44 - 21.24			(mg/L)
Beryllium	1.25	1.276	A		-2.0	0.89 - 1.66			(mg/L)
Chromium	1.26	1.27	A		-0.8	0.89 - 1.65			(mg/L)
Copper	3.68	3.80	A		-3.2	2.66 - 4.94			(mg/L)
Mercury	0.0076	0.00885	A		-14.1	0.01 - 0.01			(mg/L)
Nickel	1.36	1.457	A		-6.7	1.02 - 1.89			(mg/L)
Selenium	0.451	0.443	A		1.8	0.31 - 0.58			(mg/L)
Thallium	4.87	4.97	A		-2.0	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.868	0.876	A		-0.9	0.61 - 1.14			(mg/L)
Zinc	4.35	4.57	A		-4.8	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported
- Flag Text:** 1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ADEM01

Alabama Department of Environmental Management

Sample ID: MAPEP-05-MaW14

Central Laboratory

Montgomery

AL

36109

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	151	167	A		-9.6	116.90 - 217.10	6.3		(Bq/L)
Cesium-137	325	333	A		-2.4	233.10 - 432.90	12.9		(Bq/L)
Cobalt-57	272	272	A		0.0	190.40 - 353.60	6.77	L	(Bq/L)
Cobalt-60	257	261	A		-1.5	182.70 - 339.30	5.14	L	(Bq/L)
Hydrogen-3	3.59	527	N		-99.3	368.90 - 685.10	0.18		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	414	418	A		-1.0	292.60 - 543.40	17.2		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	355	330	A		7.6	231.00 - 429.00	12.1		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

AFOH01

AFIOH/SDRR

2350 Gillingham Dr

Brooks City-Base

TX

78235-5103

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.67	1.77	A		-5.7	1.24 - 2.30			(mg/L)
Arsenic	2.20	2.04	A		7.8	1.43 - 2.65			(mg/L)
Barium	17.10	16.34	A		4.7	11.44 - 21.24			(mg/L)
Beryllium	1.18	1.276	A		-7.5	0.89 - 1.66			(mg/L)
Cadmium	<0.01		A						(mg/L)
Chromium	1.20	1.27	A		-5.5	0.89 - 1.65			(mg/L)
Copper	4.366	3.80	A		14.9	2.66 - 4.94			(mg/L)
Lead	0.042		N	1					(mg/L)
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	1.38	1.457	A		-5.3	1.02 - 1.89			(mg/L)
Selenium	0.489	0.443	A		10.4	0.31 - 0.58			(mg/L)
Thallium	4.75	4.97	A		-4.4	3.48 - 6.46			(mg/L)
Uranium-Total	0.292	0.344	A		-15.1	0.24 - 0.45			(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	0.292	0.342				0.24 - 0.44			(mg/L)
Vanadium	0.845	0.876	A		-3.5	0.61 - 1.14			(mg/L)
Zinc	5.05	4.57	A		10.5	3.20 - 5.94			(mg/L)
Americium-241	0.59	2.23	N		-73.5	1.56 - 2.90	0.08		(Bq/L)
Cesium-134	151.52	167	A		-9.3	116.90 - 217.10	5.09		(Bq/L)
Cesium-137	329.39	333	A		-1.1	233.10 - 432.90	16.56		(Bq/L)
Cobalt-57	282.80	272	A		4.0	190.40 - 353.60	10.98		(Bq/L)
Cobalt-60	262.05	261	A		0.4	182.70 - 339.30	8.14		(Bq/L)
Hydrogen-3	589.04	527	A		11.8	368.90 - 685.10	35.77		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	417.64	418	A		-0.1	292.60 - 543.40	17.67		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.75	1.67	A		4.8	1.34 - 2.48	0.23		(Bq/L)
Plutonium-239/240	2.44	2.45	A		-0.4	1.92 - 3.58	0.31		(Bq/L)
Strontium-90	17.53	8.98	N		95.2	6.29 - 11.67	0.92		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.59	4.1	A		12.0	2.87 - 5.33	0.38		(Bq/L)
Uranium-238	4.72	4.26	A		10.8	2.98 - 5.54	0.39		(Bq/L)
Zinc-65	348.26	330	A		5.5	231.00 - 429.00	15.36		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

AFOH01

AFIOH/SDRR

2350 Gillingham Dr

Brooks City-Base

TX

78235-5103

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%

20% < Bias <= 30%

Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ANLB01

Argonne National Laboratory

9700 S. Cass Ave

Argonne

IL

60439

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.26	2.23	A		1.3	1.56 - 2.90	0.11		(Bq/L)
Cesium-134	134	167	A		-19.8	116.90 - 217.10	9		(Bq/L)
Cesium-137	318	333	A		-4.5	233.10 - 432.90	8	L	(Bq/L)
Cobalt-57	277	272	A		1.8	190.40 - 353.60	8	L	(Bq/L)
Cobalt-60	251	261	A		-3.8	182.70 - 339.30	28		(Bq/L)
Hydrogen-3	534	527	A		1.3	368.90 - 685.10	4	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	396	418	A		-5.3	292.60 - 543.40	26		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.47	1.67	A		-12.0	1.34 - 2.48	0.08		(Bq/L)
Plutonium-239/240	2.12	2.45	A		-13.5	1.92 - 3.58	0.13		(Bq/L)
Strontium-90	8.27	8.98	A		-7.9	6.29 - 11.67	0.33		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.15	4.1	A		1.2	2.87 - 5.33	0.32		(Bq/L)
Uranium-238	4.04	4.26	A		-5.2	2.98 - 5.54	0.32		(Bq/L)
Zinc-65	NR	330				231.00 - 429.00			

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ANTE01

Paragon Analytics a Division of DataChem Laboratories,
225 Commerce Drive

Sample ID: MAPEP-05-MaW14

	Fort Collins	CO	80524-	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.71	1.77	A		-3.4	1.24 - 2.30			(mg/L)
Arsenic	2.02	2.04	A		-1.0	1.43 - 2.65			(mg/L)
Barium	16.5	16.34	A		1.0	11.44 - 21.24			(mg/L)
Beryllium	1.27	1.276	A		-0.5	0.89 - 1.66			(mg/L)
Cadmium	<0.005		A						(mg/L)
Chromium	1.31	1.27	A		3.2	0.89 - 1.65			(mg/L)
Copper	3.76	3.80	A		-1.1	2.66 - 4.94			(mg/L)
Lead	<0.003		A						(mg/L)
Mercury	0.00864	0.00885	A		-2.4	0.01 - 0.01			(mg/L)
Nickel	1.48	1.457	A		1.6	1.02 - 1.89			(mg/L)
Selenium	0.482	0.443	A		8.8	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	5.03	4.97	A		1.2	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.886	0.876	A		1.1	0.61 - 1.14			(mg/L)
Zinc	4.75	4.57	A		3.9	3.20 - 5.94			(mg/L)
Americium-241	2.10	2.23	A		-5.8	1.56 - 2.90	0.17		(Bq/L)
Cesium-134	147.5	167	A		-11.7	116.90 - 217.10	8.6		(Bq/L)
Cesium-137	306	333	A		-8.1	233.10 - 432.90	18		(Bq/L)
Cobalt-57	261	272	A		-4.0	190.40 - 353.60	15		(Bq/L)
Cobalt-60	247	261	A		-5.4	182.70 - 339.30	14		(Bq/L)
Hydrogen-3	502	527	A		-4.7	368.90 - 685.10	38.5		(Bq/L)
Iron-55	220	196	A		12.2	137.20 - 254.80	25		(Bq/L)
Manganese-54	388	418	A		-7.2	292.60 - 543.40	23		(Bq/L)
Nickel-63	118	100	A		18.0	70.00 - 130.00	15		(Bq/L)
Plutonium-238	1.47	1.67	A		-12.0	1.34 - 2.48	0.12		(Bq/L)
Plutonium-239/240	1.98	2.45	A		-19.2	1.92 - 3.58	0.16		(Bq/L)
Strontium-90	8.75	8.98	A		-2.6	6.29 - 11.67	1.1		(Bq/L)
Technetium-99	75.0	66.5	A		12.8	46.55 - 86.45	6.1		(Bq/L)
Uranium-234/233	4.08	4.1	A		-0.5	2.87 - 5.33	0.31		(Bq/L)
Uranium-238	4.25	4.26	A		-0.2	2.98 - 5.54	0.32		(Bq/L)
Zinc-65	324	330	A		-1.8	231.00 - 429.00	19		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

ANTE01

Paragon Analytics a Division of DataChem Laboratories,
225 Commerce Drive
Fort Collins CO 80524-

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Water Standard

Mixed Analyte Performance Evaluation Program

Laboratory Results

ARGO01

Idaho National Laboratory

INL, Material and Fuel Complex

Sample ID: MAPEP-05-MaW14

Idaho Falls		ID	83415	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.74	1.77	A		-1.7	1.24 - 2.30	0.17		(mg/L)
Arsenic	1.96	2.04	A		-3.9	1.43 - 2.65	0.20		(mg/L)
Barium	17.2	16.34	A		5.3	11.44 - 21.24	1.7		(mg/L)
Beryllium	1.26	1.276	A		-1.3	0.89 - 1.66	0.13		(mg/L)
Cadmium	<0.01		A						(mg/L)
Chromium	1.24	1.27	A		-2.4	0.89 - 1.65	0.12		(mg/L)
Copper	NR	3.80				2.66 - 4.94			
Lead	<0.01		A						(mg/L)
Mercury	<0.02	0.00885	A	19		0.01 - 0.01			(mg/L)
Nickel	1.34	1.457	A		-8.0	1.02 - 1.89	0.13		(mg/L)
Selenium	0.434	0.443	A		-2.0	0.31 - 0.58	0.04		(mg/L)
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	175.9	167	A		5.3	116.90 - 217.10	17		(Bq/L)
Cesium-137	335.9	333	A		0.9	233.10 - 432.90	33		(Bq/L)
Cobalt-57	299.1	272	A		10.0	190.40 - 353.60	29		(Bq/L)
Cobalt-60	276	261	A		5.7	182.70 - 339.30	27		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	424.4	418	A		1.5	292.60 - 543.40	42		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	335.8	330	A		1.8	231.00 - 429.00	44		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

ARGO01

Idaho National Laboratory
INL, Material and Fuel Complex
Idaho Falls

ID 83415

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ARPL01

Analytical Support Operations - Radiochemical Process

PO Box 999

Richland

WA

99352

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.37	2.23	A		6.3	1.56 - 2.90	0.05	L	(Bq/L)
Cesium-134	162	167	A		-3.0	116.90 - 217.10	3	L	(Bq/L)
Cesium-137	324	333	A		-2.7	233.10 - 432.90	8	L	(Bq/L)
Cobalt-57	267	272	A		-1.8	190.40 - 353.60	9		(Bq/L)
Cobalt-60	258	261	A		-1.1	182.70 - 339.30	6	L	(Bq/L)
Hydrogen-3	215	527	N		-59.2	368.90 - 685.10	4	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	406	418	A		-2.9	292.60 - 543.40	8	L	(Bq/L)
Nickel-63	97.8	100	A		-2.2	70.00 - 130.00	2	L	(Bq/L)
Plutonium-238	1.85	1.67	A		10.8	1.34 - 2.48	0.04	L	(Bq/L)
Plutonium-239/240	2.58	2.45	A		5.3	1.92 - 3.58	0.04	L	(Bq/L)
Strontium-90	6.60	8.98	W		-26.5	6.29 - 11.67	0.51		(Bq/L)
Technetium-99	63.8	66.5	A		-4.1	46.55 - 86.45	2		(Bq/L)
Uranium-234/233	4.23	4.1	A		3.2	2.87 - 5.33	0.08	L	(Bq/L)
Uranium-238	4.42	4.26	A		3.8	2.98 - 5.54	0.08	L	(Bq/L)
Zinc-65	332	330	A		0.6	231.00 - 429.00	7	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ARSL01

American Radiation Services Inc.
2609 North River Road

Sample ID: MAPEP-05-MaW14

Port Allen LA 70767

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.93	2.23	A		-13.5	1.56 - 2.90	0.19		(Bq/L)
Cesium-134	144	167	A		-13.8	116.90 - 217.10	3.71	L	(Bq/L)
Cesium-137	333	333	A		0.0	233.10 - 432.90	11.8		(Bq/L)
Cobalt-57	293	272	A		7.7	190.40 - 353.60	6.49	L	(Bq/L)
Cobalt-60	260	261	A		-0.4	182.70 - 339.30	7.07	L	(Bq/L)
Hydrogen-3	455	527	A		-13.7	368.90 - 685.10	44.3		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	427	418	A		2.2	292.60 - 543.40	12.10	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	0.975	1.67	N		-41.6	1.34 - 2.48	0.0836		(Bq/L)
Plutonium-239/240	1.39	2.45	N		-43.3	1.92 - 3.58	0.119		(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	53	66.5	W		-20.3	46.55 - 86.45	4.92		(Bq/L)
Uranium-234/233	3.52	4.1	A		-14.1	2.87 - 5.33	0.30		(Bq/L)
Uranium-238	3.74	4.26	A		-12.2	2.98 - 5.54	0.32		(Bq/L)
Zinc-65	358	330	A		8.5	231.00 - 429.00	13.80		(Bq/L)

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported
- Flag Text:** 1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ATL101

ATL International, Inc.

20010 Century Blvd, Suite 500

Germantown

MD

20874

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77			1.24 - 2.30				
Arsenic	NR	2.04			1.43 - 2.65				
Barium	NR	16.34			11.44 - 21.24				
Beryllium	NR	1.276			0.89 - 1.66				
Chromium	NR	1.27			0.89 - 1.65				
Copper	NR	3.80			2.66 - 4.94				
Mercury	NR	0.00885			0.01 - 0.01				
Nickel	NR	1.457			1.02 - 1.89				
Selenium	NR	0.443			0.31 - 0.58				
Thallium	NR	4.97			3.48 - 6.46				
Uranium-Total	NR	0.344			0.24 - 0.45				
Uranium-235	NR	0.00248			0.00 - 0.00				
Uranium-238	NR	0.342			0.24 - 0.44				
Vanadium	NR	0.876			0.61 - 1.14				
Zinc	NR	4.57			3.20 - 5.94				
Americium-241	2.4600	2.23	A		10.3	1.56 - 2.90	0.6723	H	(Bq/L)
Cesium-134	152.1000	167	A		-8.9	116.90 - 217.10	6.8667		(Bq/L)
Cesium-137	324.1333	333	A		-2.7	233.10 - 432.90	23.2667		(Bq/L)
Cobalt-57	289.3667	272	A		6.4	190.40 - 353.60	17.1000		(Bq/L)
Cobalt-60	266.6667	261	A		2.2	182.70 - 339.30	11.5000		(Bq/L)
Hydrogen-3	490.4681	527	A		-6.9	368.90 - 685.10	13.9695	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	421.7667	418	A		0.9	292.60 - 543.40	35.3667		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.4650	1.67	A		-12.3	1.34 - 2.48	0.1980		(Bq/L)
Plutonium-239/240	1.8890	2.45	W		-22.9	1.92 - 3.58	0.2538		(Bq/L)
Strontium-90	8.4325	8.98	A		-6.1	6.29 - 11.67	0.5207		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.2730	4.1	A		4.2	2.87 - 5.33	0.6345		(Bq/L)
Uranium-238	4.4830	4.26	A		5.2	2.98 - 5.54	0.6651		(Bq/L)
Zinc-65	353.9667	330	A		7.3	231.00 - 429.00	24.6000		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Flag Text 1 - False Positive

N = Result not acceptable

2 - False Negative

L = Uncertainty potentially too low

4 - Sensitivity Evaluation

H = Uncertainty potentially too high

5 - Total Metal

Q = Participant should evaluate reported value

6 - Not Evaluated

QL = Quantitation Limit

7 - DL > CLP Limit

RW = Report Warning

9 - Check QL

NR = Not Reported

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

AY1201

BWXT Y-12, Analytical Chemistry Organization Laboratory

Sample ID: MAPEP-05-MaW14

Y12, NSC, Bldg. 9995, Rm 142

	Oak Ridge	TN	37831-8189	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.70	1.77	A		-4.0	1.24 - 2.30			(mg/L)
Arsenic	1.97	2.04	A		-3.4	1.43 - 2.65			(mg/L)
Barium	17.0	16.34	A		4.0	11.44 - 21.24			(mg/L)
Beryllium	1.25	1.276	A		-2.0	0.89 - 1.66			(mg/L)
Cadmium	<0.025		A						(mg/L)
Chromium	1.26	1.27	A		-0.8	0.89 - 1.65			(mg/L)
Copper	3.71	3.80	A		-2.4	2.66 - 4.94			(mg/L)
Lead	<0.005		A						(mg/L)
Mercury	0.00985	0.00885	A		11.3	0.01 - 0.01			(mg/L)
Nickel	1.42	1.457	A		-2.5	1.02 - 1.89			(mg/L)
Selenium	0.446	0.443	A		0.7	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	4.74	4.97	A		-4.6	3.48 - 6.46			(mg/L)
Uranium-Total	0.341	0.344	A		-0.9	0.24 - 0.45	0.03		(mg/L)
Uranium-235	0.0024	0.00248	A		-3.2	0.00 - 0.00	0.0002		(mg/L)
Uranium-238	0.338	0.342				0.24 - 0.44	0.03		(mg/L)
Vanadium	0.853	0.876	A		-2.6	0.61 - 1.14			(mg/L)
Zinc	4.34	4.57	A		-5.0	3.20 - 5.94			(mg/L)
Americium-241	2.22	2.23	A		-0.4	1.56 - 2.90	0.23		(Bq/L)
Cesium-134	170	167	A		1.8	116.90 - 217.10	8.3		(Bq/L)
Cesium-137	331	333	A		-0.6	233.10 - 432.90	34		(Bq/L)
Cobalt-57	281	272	A		3.3	190.40 - 353.60	20		(Bq/L)
Cobalt-60	262	261	A		0.4	182.70 - 339.30	19		(Bq/L)
Hydrogen-3	510	527	A		-3.2	368.90 - 685.10	32		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	428	418	A		2.4	292.60 - 543.40	44		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.70	1.67	A		1.8	1.34 - 2.48	0.19		(Bq/L)
Plutonium-239/240	2.31	2.45	A		-5.7	1.92 - 3.58	0.24		(Bq/L)
Strontium-90	4.21	8.98	N		-53.1	6.29 - 11.67	0.18		(Bq/L)
Technetium-99	66.0	66.5	A		-0.8	46.55 - 86.45	0.98	L	(Bq/L)
Uranium-234/233	3.56	4.1	A		-13.2	2.87 - 5.33	0.37		(Bq/L)
Uranium-238	3.72	4.26	A		-12.7	2.98 - 5.54	0.38		(Bq/L)
Zinc-65	356	330	A		7.9	231.00 - 429.00	36		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

AY1201

BWXT Y-12, Analytical Chemistry Organization Laboratory
Y12, NSC, Bldg. 9995, Rm 142
Oak Ridge TN 37831-8189

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
L = Uncertainty potentially too low			5 - Total Metal
H = Uncertainty potentially too high			6 - Not Evaluated
Q = Participant should evaluate reported value			7 - DL > CLP Limit
QL = Quantitation Limit			9 - Check QL
RW = Report Warning			10 - Check Isomer
NR = Not Reported			11 - False Positive Test, Value Not Reported
			14 - Solubility Issue
			15 - Refractory
			16 - Reported zero uncertainty
			17 - NOT DETECTED, reported a statistically zero result.
			18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

BNEL01

Northeast Laboratory Services, Inc.

PO Box 788

Sample ID: MAPEP-05-MaW14

Waterville		ME	04903-0788	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.85	1.77	A		4.5	1.24 - 2.30			(mg/L)
Arsenic	2.23	2.04	A		9.3	1.43 - 2.65			(mg/L)
Barium	16.0	16.34	A		-2.1	11.44 - 21.24			(mg/L)
Beryllium	1.33	1.276	A		4.2	0.89 - 1.66			(mg/L)
Cadmium	0.042		N	1					(mg/L)
Chromium	1.36	1.27	A		7.1	0.89 - 1.65			(mg/L)
Copper	3.84	3.80	A		1.1	2.66 - 4.94			(mg/L)
Lead	0.026		N	1					(mg/L)
Mercury	0.0173	0.00885	N		95.5	0.01 - 0.01			(mg/L)
Nickel	1.47	1.457	A		0.9	1.02 - 1.89			(mg/L)
Selenium	0.422	0.443	A		-4.7	0.31 - 0.58			(mg/L)
Silver	0.005		A						(mg/L)
Thallium	5.13	4.97	A		3.2	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.943	0.876	A		7.6	0.61 - 1.14			(mg/L)
Zinc	4.40	4.57	A		-3.7	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

BNEL01

Northeast Laboratory Services, Inc.

PO Box 788

Waterville

ME

04903-0788

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

CDHS01

California Department of Health Services

Sanitation & Radiation Lab.

Richmond

CA

94804-6403

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	162.1	167	A		-2.9	116.90 - 217.10	2.22	L	(Bq/L)
Cesium-137	323.0	333	A		-3.0	233.10 - 432.90	2.77	L	(Bq/L)
Cobalt-57	269.9	272	A		-0.8	190.40 - 353.60	1.59	L	(Bq/L)
Cobalt-60	256.9	261	A		-1.6	182.70 - 339.30	2.66	L	(Bq/L)
Hydrogen-3	530.7	527	A		0.7	368.90 - 685.10	17.02		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	416.7	418	A		-0.3	292.60 - 543.40	3.17	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	9.610	8.98	A		7.0	6.29 - 11.67	0.820		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	347.2	330	A		5.2	231.00 - 429.00	5.26	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

CESL01

Lawrence Livermore National Laboratory - EMRL

Sample ID: MAPEP-05-MaW14

7000 East Avenue

Livermore

CA

94551

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	153.	167	A		-8.4	116.90 - 217.10	7.76		(Bq/L)
Cesium-137	313.	333	A		-6.0	233.10 - 432.90	23.8		(Bq/L)
Cobalt-57	267.	272	A		-1.8	190.40 - 353.60	16.0		(Bq/L)
Cobalt-60	249.	261	A		-4.6	182.70 - 339.30	15.1		(Bq/L)
Hydrogen-3	601.	527	A		14.0	368.90 - 685.10	6.69	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	399.	418	A		-4.5	292.60 - 543.40	30.2		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.68	1.67	A		0.6	1.34 - 2.48	0.269		(Bq/L)
Plutonium-239/240	2.41	2.45	A		-1.6	1.92 - 3.58	0.269		(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	341.	330	A		3.3	231.00 - 429.00	24.5		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

CHMH01

222-S Laboratory

Hanford MSIN T6-10

Richland

WA

99352

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.20	2.23	A		-1.3	1.56 - 2.90	.063	L	(Bq/L)
Cesium-134	158	167	A		-5.4	116.90 - 217.10	3.1	L	(Bq/L)
Cesium-137	347	333	A		4.2	233.10 - 432.90	11		(Bq/L)
Cobalt-57	289	272	A		6.3	190.40 - 353.60	4.7	L	(Bq/L)
Cobalt-60	279	261	A		6.9	182.70 - 339.30	4	L	(Bq/L)
Hydrogen-3	500	527	A		-5.1	368.90 - 685.10	42		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	449	418	A		7.4	292.60 - 543.40	18		(Bq/L)
Nickel-63	238	100	N		138.0	70.00 - 130.00	2.7	L	(Bq/L)
Plutonium-238	1.78	1.67	A		6.6	1.34 - 2.48	.043	L	(Bq/L)
Plutonium-239/240	2.41	2.45	A		-1.6	1.92 - 3.58	.054	L	(Bq/L)
Strontium-90	8.06	8.98	A		-10.2	6.29 - 11.67	.22	L	(Bq/L)
Technetium-99	64.4	66.5	A		-3.2	46.55 - 86.45	2		(Bq/L)
Uranium-234/233	3.78	4.1	A		-7.8	2.87 - 5.33	.21		(Bq/L)
Uranium-238	4.01	4.26	A		-5.9	2.98 - 5.54	.22		(Bq/L)
Zinc-65	378	330	A		14.5	231.00 - 429.00	9.6	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

CMRC01

Carlsbad Environmental Monitoring and Research Center

1400 University Dr.

Sample ID: MAPEP-05-MaW14

Carlsbad NM 88220

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.19	2.23	A		-1.8	1.56 - 2.90	.03	L	(Bq/L)
Cesium-134	156.6	167	A		-6.2	116.90 - 217.10	2.5	L	(Bq/L)
Cesium-137	317.8	333	A		-4.6	233.10 - 432.90	4.8	L	(Bq/L)
Cobalt-57	254	272	A		-6.6	190.40 - 353.60	4	L	(Bq/L)
Cobalt-60	254.2	261	A		-2.6	182.70 - 339.30	3.4	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	403.4	418	A		-3.5	292.60 - 543.40	5.8	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.77	1.67	A		6.0	1.34 - 2.48	.024	L	(Bq/L)
Plutonium-239/240	2.49	2.45	A		1.6	1.92 - 3.58	.032	L	(Bq/L)
Strontium-90	8.68	8.98	A		-3.3	6.29 - 11.67	0.23	L	(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.178	4.1	A		1.9	2.87 - 5.33	.094	L	(Bq/L)
Uranium-238	4.30	4.26	A		0.9	2.98 - 5.54	.096	L	(Bq/L)
Zinc-65	336.2	330	A		1.9	231.00 - 429.00	7	L	(Bq/L)

Flags:	A = Result acceptable W = Result acceptable with warning N = Result not acceptable L = Uncertainty potentially too low H = Uncertainty potentially too high Q = Participant should evaluate reported value QL = Quantitation Limit RW = Report Warning NR = Not Reported	Bias <= 20% 20% < Bias <= 30% Bias > 30%	Flag Text	1 - False Positive 2 - False Negative 4 - Sensitivity Evaluation 5 - Total Metal 6 - Not Evaluated 7 - DL > CLP Limit 9 - Check QL 10 - Check Isomer 11 - False Positive Test, Value Not Reported 14 - Solubility Issue 15 - Refractory 16 - Reported zero uncertainty 17 - NOT DETECTED, reported a statistically zero result. 18 - Sensitivity evaluation, value not reported.
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Mixed Analyte Performance Evaluation Program

Laboratory Results

CORE02

STL Denver

4955 Yarrow St

Arvada

CO

80002

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.7	1.77	A		-4.0	1.24 - 2.30	0.34		(mg/L)
Arsenic	1.9	2.04	A		-6.9	1.43 - 2.65	0.38		(mg/L)
Barium	16.0	16.34	A		-2.1	11.44 - 21.24	3.2		(mg/L)
Beryllium	1.2	1.276	A		-6.0	0.89 - 1.66	0.24		(mg/L)
Cadmium	<0.001		A						(mg/L)
Chromium	1.4	1.27	A		10.2	0.89 - 1.65	0.28		(mg/L)
Copper	3.9	3.80	A		2.6	2.66 - 4.94	0.78		(mg/L)
Lead	0.0015		A				0.0003		(mg/L)
Mercury	0.0077	0.00885	A		-13.0	0.01 - 0.01	0.0015		(mg/L)
Nickel	1.5	1.457	A		3.0	1.02 - 1.89	0.3		(mg/L)
Selenium	0.420	0.443	A		-5.2	0.31 - 0.58	0.084		(mg/L)
Silver	0.0026		A				0.00052		(mg/L)
Thallium	4.9	4.97	A		-1.4	3.48 - 6.46	0.98		(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.93	0.876	A		6.2	0.61 - 1.14	0.186		(mg/L)
Zinc	5.0	4.57	A		9.4	3.20 - 5.94	1.0		(mg/L)
Americium-241	1.96	2.23	A		-12.1	1.56 - 2.90	0.09		(Bq/L)
Cesium-134	154.3	167	A		-7.6	116.90 - 217.10	3.8	L	(Bq/L)
Cesium-137	329.9	333	A		-0.9	233.10 - 432.90	4.4	L	(Bq/L)
Cobalt-57	285.1	272	A		4.8	190.40 - 353.60	4.3	L	(Bq/L)
Cobalt-60	264.4	261	A		1.3	182.70 - 339.30	3.9	L	(Bq/L)
Hydrogen-3	563	527	A		6.8	368.90 - 685.10	5	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	427.0	418	A		2.2	292.60 - 543.40	5.5	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.74	1.67	A		4.2	1.34 - 2.48	0.09		(Bq/L)
Plutonium-239/240	2.49	2.45	A		1.6	1.92 - 3.58	0.12		(Bq/L)
Strontium-90	7.55	8.98	A		-15.9	6.29 - 11.67	0.08	L	(Bq/L)
Technetium-99	69	66.5	A		3.8	46.55 - 86.45	1	L	(Bq/L)
Uranium-234/233	4.24	4.1	A		3.4	2.87 - 5.33	0.19		(Bq/L)
Uranium-235	0.23						0.02		(Bq/L)
Uranium-238	4.34	4.26	A		1.9	2.98 - 5.54	0.19		(Bq/L)
Zinc-65	352.8	330	A		6.9	231.00 - 429.00	6.2	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

CORE02

STL Denver

4955 Yarrow St

Arvada

CO

80002

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%

20% < Bias <= 30%

Bias > 30%

Flag Text

- 1 - False Positive
- 2 - False Negative
- 4 - Sensitivity Evaluation
- 5 - Total Metal
- 6 - Not Evaluated
- 7 - DL > CLP Limit
- 9 - Check QL
- 10 - Check Isomer
- 11 - False Positive Test, Value Not Reported
- 14 - Solubility Issue
- 15 - Refractory
- 16 - Reported zero uncertainty
- 17 - NOT DETECTED, reported a statistically zero result.
- 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

DAFI01

Davis & Floyd, Inc.

PO Drawer 428

Sample ID: MAPEP-05-MaW14

Greenwood SC 29648

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.72	1.77	A		-2.8	1.24 - 2.30			(mg/L)
Arsenic	1.70	2.04	A		-16.7	1.43 - 2.65			(mg/L)
Barium	15.4	16.34	A		-5.8	11.44 - 21.24			(mg/L)
Beryllium	1.20	1.276	A		-6.0	0.89 - 1.66			(mg/L)
Cadmium	<0.0050		A						(mg/L)
Chromium	1.18	1.27	A		-7.1	0.89 - 1.65			(mg/L)
Copper	3.56	3.80	A		-6.3	2.66 - 4.94			(mg/L)
Lead	<0.0050		A						(mg/L)
Mercury	0.00764	0.00885	A		-13.7	0.01 - 0.01			(mg/L)
Nickel	1.38	1.457	A		-5.3	1.02 - 1.89			(mg/L)
Selenium	0.400	0.443	A		-9.7	0.31 - 0.58			(mg/L)
Silver	<0.010		A						(mg/L)
Thallium	4.76	4.97	A		-4.2	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.868	0.876	A		-0.9	0.61 - 1.14			(mg/L)
Zinc	4.51	4.57	A		-1.3	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

DAFI01

Davis & Floyd, Inc.

PO Drawer 428

Greenwood

SC

29648

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

DEHS01

Department of Environmental Health & Safety

Sample ID: MAPEP-05-MaW14

North Carolina State Univ.

Raleigh

NC

27695-8007

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	142.218	167	A		-14.8	116.90 - 217.10	5.186		(Bq/L)
Cesium-137	314.194	333	A		-5.6	233.10 - 432.90	19.226		(Bq/L)
Cobalt-57	391.021	272	N		43.8	190.40 - 353.60	26.394		(Bq/L)
Cobalt-60	260.123	261	A		-0.3	182.70 - 339.30	8.316		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	398.881	418	A		-4.6	292.60 - 543.40	18.434		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	342.210	330	A		3.7	231.00 - 429.00	14.502		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning

20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

EPAL01

U. S. EPA Office of Radiation and Indoor Air
944 E. Harmon Ave.

Sample ID: MAPEP-05-MaW14

Las Vegas		NV	89119-6721		Mixed Analyte Water Standard						
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units		
Antimony	NR	1.77				1.24 - 2.30					
Arsenic	NR	2.04				1.43 - 2.65					
Barium	NR	16.34				11.44 - 21.24					
Beryllium	NR	1.276				0.89 - 1.66					
Chromium	NR	1.27				0.89 - 1.65					
Copper	NR	3.80				2.66 - 4.94					
Mercury	NR	0.00885				0.01 - 0.01					
Nickel	NR	1.457				1.02 - 1.89					
Selenium	NR	0.443				0.31 - 0.58					
Thallium	NR	4.97				3.48 - 6.46					
Uranium-Total	NR	0.344				0.24 - 0.45					
Uranium-235	NR	0.00248				0.00 - 0.00					
Uranium-238	NR	0.342				0.24 - 0.44					
Vanadium	NR	0.876				0.61 - 1.14					
Zinc	NR	4.57				3.20 - 5.94					
Americium-241	NR	2.23				1.56 - 2.90					
Cesium-134	143.82	167	A		-13.9	116.90 - 217.10	7.31		(Bq/L)		
Cesium-137	311.08	333	A		-6.6	233.10 - 432.90	16.08		(Bq/L)		
Cobalt-57	258.70	272	A		-4.9	190.40 - 353.60	12.31		(Bq/L)		
Cobalt-60	252.74	261	A		-3.2	182.70 - 339.30	11.94		(Bq/L)		
Hydrogen-3	293.20	527	N		-44.4	368.90 - 685.10	11.03		(Bq/L)		
Iron-55	NR	196				137.20 - 254.80					
Manganese-54	399.84	418	A		-4.3	292.60 - 543.40	20.16		(Bq/L)		
Nickel-63	NR	100				70.00 - 130.00					
Plutonium-238	1.80	1.67	A		7.8	1.34 - 2.48	0.19		(Bq/L)		
Plutonium-239/240	2.44	2.45	A		-0.4	1.92 - 3.58	0.24		(Bq/L)		
Strontium-90	NR	8.98				6.29 - 11.67					
Technetium-99	NR	66.5				46.55 - 86.45					
Uranium-234/233	NR	4.1				2.87 - 5.33					
Uranium-238	NR	4.26				2.98 - 5.54					
Zinc-65	338.34	330	A		2.5	231.00 - 429.00	16.47		(Bq/L)		

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ERCL01

Public Health Laboratories

1610 N.E. 150 th Street

Sample ID: MAPEP-05-MaW14

Shoreline WA 98155-9701

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.78	1.77	A		0.6	1.24 - 2.30	0.18		(mg/L)
Arsenic	1.97	2.04	A		-3.4	1.43 - 2.65	0.20		(mg/L)
Barium	1.62	16.34	N		-90.1	11.44 - 21.24	0.16		(mg/L)
Beryllium	1.38	1.276	A		8.1	0.89 - 1.66	0.14		(mg/L)
Cadmium	-0.005		A				0.001		(mg/L)
Chromium	1.35	1.27	A		6.3	0.89 - 1.65	0.13		(mg/L)
Copper	3.67	3.80	A		-3.4	2.66 - 4.94	0.37		(mg/L)
Lead	0.0003		A				0.0001		(mg/L)
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	1.54	1.457	A		5.7	1.02 - 1.89	0.15		(mg/L)
Selenium	0.41	0.443	A		-7.4	0.31 - 0.58	0.04		(mg/L)
Silver	0.003		A				0.0003		(mg/L)
Thallium	4.99	4.97	A		0.4	3.48 - 6.46	0.50		(mg/L)
Uranium-Total	0.38	0.344	A		10.5	0.24 - 0.45	0.04		(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.93	0.876	A		6.2	0.61 - 1.14	0.09		(mg/L)
Zinc	4.46	4.57	A		-2.4	3.20 - 5.94	0.45		(mg/L)
Americium-241	1.95	2.23	A		-12.6	1.56 - 2.90	0.06		(Bq/L)
Cesium-134	140	167	A		-16.2	116.90 - 217.10	8		(Bq/L)
Cesium-137	320	333	A		-3.9	233.10 - 432.90	3	L	(Bq/L)
Cobalt-57	275	272	A		1.1	190.40 - 353.60	10		(Bq/L)
Cobalt-60	269	261	A		3.1	182.70 - 339.30	11		(Bq/L)
Hydrogen-3	555	527	A		5.3	368.90 - 685.10	6	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	444	418	A		6.2	292.60 - 543.40	40		(Bq/L)
Nickel-63	172	100	N		72.0	70.00 - 130.00	4	L	(Bq/L)
Plutonium-238	1.69	1.67	A		1.2	1.34 - 2.48	0.06		(Bq/L)
Plutonium-239/240	2.36	2.45	A		-3.7	1.92 - 3.58	0.07	L	(Bq/L)
Strontium-90	9.37	8.98	A		4.3	6.29 - 11.67	0.37		(Bq/L)
Technetium-99	60.4	66.5	A		-9.2	46.55 - 86.45	5.9		(Bq/L)
Uranium-234/233	3.87	4.1	A		-5.6	2.87 - 5.33	0.09	L	(Bq/L)
Uranium-238	4.18	4.26	A		-1.9	2.98 - 5.54	0.09	L	(Bq/L)
Zinc-65	381	330	A		15.5	231.00 - 429.00	4	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

ERCL01

Public Health Laboratories
1610 N.E. 150 th Street
Shoreline WA 98155-9701

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ERHD99

Radiation Protection Bureau ERHD NMS

Sample ID: MAPEP-05-MaW14

775 Brookfield Road AL6302D1

Ottawa Ontario K1A 1C1

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.94	2.23	A		-13.0	1.56 - 2.90	0.71	H	(Bq/L)
Cesium-134	151.63	167	A		-9.2	116.90 - 217.10	3.1	L	(Bq/L)
Cesium-137	330.65	333	A		-0.7	233.10 - 432.90	9.72	L	(Bq/L)
Cobalt-57	288.66	272	A		6.1	190.40 - 353.60	7.86	L	(Bq/L)
Cobalt-60	256.98	261	A		-1.5	182.70 - 339.30	5.39	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	437.95	418	A		4.8	292.60 - 543.40	12.2	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	353.67	330	A		7.2	231.00 - 429.00	11.32		(Bq/L)

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ERLG01

Environmental Radiation Laboratory

Georgia Institute of Tech.

Atlanta

GA

30332

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	170	167	A		1.8	116.90 - 217.10	16		(Bq/L)
Cesium-137	360	333	A		8.1	233.10 - 432.90	40		(Bq/L)
Cobalt-57	300	272	A		10.3	190.40 - 353.60	30		(Bq/L)
Cobalt-60	270	261	A		3.4	182.70 - 339.30	30		(Bq/L)
Hydrogen-3	470	527	A		-10.8	368.90 - 685.10	30		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	450	418	A		7.7	292.60 - 543.40	40		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.7	1.67	A		1.8	1.34 - 2.48	.1		(Bq/L)
Plutonium-239/240	2.4	2.45	A		-2.0	1.92 - 3.58	.2		(Bq/L)
Strontium-90	9.0	8.98	A		0.2	6.29 - 11.67	0.1	L	(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	4.4	4.26	A		3.3	2.98 - 5.54	.2		(Bq/L)
Zinc-65	370	330	A		12.1	231.00 - 429.00	40		(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ERPD99

Environmental Radiation Protection Division

Sample ID: MAPEP-05-MaW14

Mubarak Al-Kabeer Street, al-Awqaf Compl

Sharq

Kuwait

656

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	170	167	A		1.8	116.90 - 217.10	11		(Bq/L)
Cesium-137	318	333	A		-4.5	233.10 - 432.90	16		(Bq/L)
Cobalt-57	283	272	A		4.0	190.40 - 353.60	22		(Bq/L)
Cobalt-60	257	261	A		-1.5	182.70 - 339.30	27		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	439	418	A		5.0	292.60 - 543.40	31		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	9.56	4.1	N		133.2	2.87 - 5.33	1.45		(Bq/L)
Uranium-238	9.93	4.26	N		133.1	2.98 - 5.54	1.24		(Bq/L)
Zinc-65	350	330	A		6.1	231.00 - 429.00	32		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ESDE01

Region 5 EQC Tritium Lab

206 Beaufort NE

Sample ID: MAPEP-05-MaW14

Aiken SC 29801

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	494.9	527	A		-6.1	368.90 - 685.10	6.13	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ETTP01

ETTP

Bldg K1006

Oak Ridge

TN

37830

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.53	1.77	A		-13.6	1.24 - 2.30			(mg/L)
Arsenic	1.70	2.04	A		-16.7	1.43 - 2.65			(mg/L)
Barium	16.8	16.34	A		2.8	11.44 - 21.24			(mg/L)
Beryllium	1.15	1.276	A		-9.9	0.89 - 1.66			(mg/L)
Cadmium	<0.01		A						(mg/L)
Chromium	1.18	1.27	A		-7.1	0.89 - 1.65			(mg/L)
Copper	3.56	3.80	A		-6.3	2.66 - 4.94			(mg/L)
Lead	<0.125		A	19					(mg/L)
Mercury	0.0068	0.00885	W		-23.2	0.01 - 0.01			(mg/L)
Nickel	1.29	1.457	A		-11.5	1.02 - 1.89			(mg/L)
Selenium	0.401	0.443	A		-9.5	0.31 - 0.58			(mg/L)
Silver	<0.025		A						(mg/L)
Thallium	4.44	4.97	A		-10.7	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.78	0.876	A		-11.0	0.61 - 1.14			(mg/L)
Zinc	4.03	4.57	A		-11.8	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

ETTP01

ETTP

Bldg K1006

Oak Ridge

TN

37830

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

FDHE01

Florida Dept of Health Environmental Laboratory
PO Box 680069

Sample ID: MAPEP-05-MaW14

Orlando FL 32868-0069

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.0	2.23	A		-10.3	1.56 - 2.90	0.6	H	(Bq/L)
Cesium-134	166.9	167	A		-0.1	116.90 - 217.10	0.7	L	(Bq/L)
Cesium-137	326.4	333	A		-2.0	233.10 - 432.90	0.8	L	(Bq/L)
Cobalt-57	266.2	272	A		-2.1	190.40 - 353.60	0.6	L	(Bq/L)
Cobalt-60	261.0	261	A		0.0	182.70 - 339.30	0.5	L	(Bq/L)
Hydrogen-3	556.4	527	A		5.6	368.90 - 685.10	6.7	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	420.7	418	A		0.6	292.60 - 543.40	0.9	L	(Bq/L)
Nickel-63	101.3	100	A		1.3	70.00 - 130.00	1.1	L	(Bq/L)
Plutonium-238	1.59	1.67	A		-4.8	1.34 - 2.48	0.05		(Bq/L)
Plutonium-239/240	2.12	2.45	A		-13.5	1.92 - 3.58	0.06	L	(Bq/L)
Strontium-90	9.9	8.98	A		10.2	6.29 - 11.67	0.4		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	3.97	4.1	A		-3.2	2.87 - 5.33	0.42		(Bq/L)
Uranium-238	3.96	4.26	A		-7.0	2.98 - 5.54	0.07	L	(Bq/L)
Zinc-65	351.5	330	A		6.5	231.00 - 429.00	1.3	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

FDOH01

Florida Dept. of Health, Mobile Environmental Radiologic
PO Box 680069

Sample ID: MAPEP-05-MaW14

Orlando FL 32868-0069

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.2	2.23	A		-1.3	1.56 - 2.90	0.4		(Bq/L)
Cesium-134	157	167	A		-6.0	116.90 - 217.10	2	L	(Bq/L)
Cesium-137	310	333	A		-6.9	233.10 - 432.90	6	L	(Bq/L)
Cobalt-57	278	272	A		2.2	190.40 - 353.60	6	L	(Bq/L)
Cobalt-60	247	261	A		-5.4	182.70 - 339.30	3	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	404	418	A		-3.3	292.60 - 543.40	7	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	330	330	A		0.0	231.00 - 429.00	6	L	(Bq/L)

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

FERM01

Fluor Fernald
P.O. Box 538704

Sample ID: MAPEP-05-MaW14

Cincinnati OH 45253-8704

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77			1.24 - 2.30				
Arsenic	NR	2.04			1.43 - 2.65				
Barium	NR	16.34			11.44 - 21.24				
Beryllium	NR	1.276			0.89 - 1.66				
Chromium	NR	1.27			0.89 - 1.65				
Copper	NR	3.80			2.66 - 4.94				
Mercury	NR	0.00885			0.01 - 0.01				
Nickel	NR	1.457			1.02 - 1.89				
Selenium	NR	0.443			0.31 - 0.58				
Thallium	NR	4.97			3.48 - 6.46				
Uranium-Total	NR	0.344			0.24 - 0.45				
Uranium-235	NR	0.00248			0.00 - 0.00				
Uranium-238	NR	0.342			0.24 - 0.44				
Vanadium	NR	0.876			0.61 - 1.14				
Zinc	NR	4.57			3.20 - 5.94				
Americium-241	NR	2.23			1.56 - 2.90				
Cesium-134	NR	167			116.90 - 217.10				
Cesium-137	NR	333			233.10 - 432.90				
Cobalt-57	NR	272			190.40 - 353.60				
Cobalt-60	NR	261			182.70 - 339.30				
Hydrogen-3	NR	527			368.90 - 685.10				
Iron-55	NR	196			137.20 - 254.80				
Manganese-54	NR	418			292.60 - 543.40				
Nickel-63	NR	100			70.00 - 130.00				
Plutonium-238	NR	1.67			1.34 - 2.48				
Plutonium-239/240	NR	2.45			1.92 - 3.58				
Strontium-90	NR	8.98			6.29 - 11.67				
Technetium-99	NR	66.5			46.55 - 86.45				
Uranium-234/233	NR	4.1			2.87 - 5.33				
Uranium-238	4.52	4.26	A		6.1	2.98 - 5.54	.23		(Bq/L)
Zinc-65	NR	330				231.00 - 429.00			

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

FNAL01

Fermi National Accelerator Laboratory (FermiLab)
PO Box 500, MS325

Sample ID: MAPEP-05-MaW14

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Mixed Analyte Water Standard			
						Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	159	167	A		-4.8	116.90 - 217.10	7		(Bq/L)
Cesium-137	318	333	A		-4.5	233.10 - 432.90	28		(Bq/L)
Cobalt-57	267	272	A		-1.8	190.40 - 353.60	16		(Bq/L)
Cobalt-60	269	261	A		3.1	182.70 - 339.30	17		(Bq/L)
Hydrogen-3	548	527	A		4.0	368.90 - 685.10	14	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	410	418	A		-1.9	292.60 - 543.40	36		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	343	330	A		3.9	231.00 - 429.00	30		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

GENE01

General Engineering Laboratories, LLC

2040 Savage Road

Charleston

SC

29407

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.75	1.77	A		-1.1	1.24 - 2.30			(mg/L)
Arsenic	2.05	2.04	A		0.5	1.43 - 2.65			(mg/L)
Barium	16.6	16.34	A		1.6	11.44 - 21.24			(mg/L)
Beryllium	1.29	1.276	A		1.1	0.89 - 1.66			(mg/L)
Cadmium	<0.005		A						(mg/L)
Chromium	1.31	1.27	A		3.2	0.89 - 1.65			(mg/L)
Copper	3.76	3.80	A		-1.1	2.66 - 4.94			(mg/L)
Lead	<0.010		A						(mg/L)
Mercury	0.00726	0.00885	A		-18.0	0.01 - 0.01			(mg/L)
Nickel	1.45	1.457	A		-0.5	1.02 - 1.89			(mg/L)
Selenium	0.437	0.443	A		-1.4	0.31 - 0.58			(mg/L)
Silver	<0.005		A						(mg/L)
Thallium	5.03	4.97	A		1.2	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.919	0.876	A		4.9	0.61 - 1.14			(mg/L)
Zinc	4.53	4.57	A		-0.9	3.20 - 5.94			(mg/L)
Americium-241	1.987	2.23	A		-10.9	1.56 - 2.90	0.053	L	(Bq/L)
Cesium-134	147.0	167	A		-12.0	116.90 - 217.10	0.8	L	(Bq/L)
Cesium-137	315.0	333	A		-5.4	233.10 - 432.90	1.0	L	(Bq/L)
Cobalt-57	259.3	272	A		-4.7	190.40 - 353.60	0.6	L	(Bq/L)
Cobalt-60	257.0	261	A		-1.5	182.70 - 339.30	0.9	L	(Bq/L)
Hydrogen-3	512.7	527	A		-2.7	368.90 - 685.10	5.6	L	(Bq/L)
Iron-55	184.7	196	A		-5.8	137.20 - 254.80	5.9		(Bq/L)
Manganese-54	408.3	418	A		-2.3	292.60 - 543.40	1.2	L	(Bq/L)
Nickel-63	87.2	100	A		-12.8	70.00 - 130.00	1.3	L	(Bq/L)
Plutonium-238	1.523	1.67	A		-8.8	1.34 - 2.48	0.045	L	(Bq/L)
Plutonium-239/240	2.273	2.45	A		-7.2	1.92 - 3.58	0.055	L	(Bq/L)
Strontium-90	7.42	8.98	A		-17.4	6.29 - 11.67	0.44		(Bq/L)
Technetium-99	65.1	66.5	A		-2.1	46.55 - 86.45	0.9	L	(Bq/L)
Uranium-234/233	4.033	4.1	A		-1.6	2.87 - 5.33	0.075	L	(Bq/L)
Uranium-238	4.197	4.26	A		-1.5	2.98 - 5.54	0.076	L	(Bq/L)
Zinc-65	349.3	330	A		5.8	231.00 - 429.00	2.0	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

GENE01

General Engineering Laboratories, LLC
2040 Savage Road
Charleston

SC 29407

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

GPCL01

Georgia Power Company Environmental Laboratory
5131 Maner Road

Sample ID: MAPEP-05-MaW14

		Smyrna	GA	30080	Mixed Analyte Water Standard						
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units		
Antimony	NR	1.77				1.24 - 2.30					
Arsenic	NR	2.04				1.43 - 2.65					
Barium	NR	16.34				11.44 - 21.24					
Beryllium	NR	1.276				0.89 - 1.66					
Chromium	NR	1.27				0.89 - 1.65					
Copper	NR	3.80				2.66 - 4.94					
Mercury	NR	0.00885				0.01 - 0.01					
Nickel	NR	1.457				1.02 - 1.89					
Selenium	NR	0.443				0.31 - 0.58					
Thallium	NR	4.97				3.48 - 6.46					
Uranium-Total	NR	0.344				0.24 - 0.45					
Uranium-235	NR	0.00248				0.00 - 0.00					
Uranium-238	NR	0.342				0.24 - 0.44					
Vanadium	NR	0.876				0.61 - 1.14					
Zinc	NR	4.57				3.20 - 5.94					
Americium-241	NR	2.23				1.56 - 2.90					
Cesium-134	148.1	167	A		-11.3	116.90 - 217.10	3.2	L	(Bq/L)		
Cesium-137	313.5	333	A		-5.9	233.10 - 432.90	6.8	L	(Bq/L)		
Cobalt-57	267.8	272	A		-1.5	190.40 - 353.60	5.1	L	(Bq/L)		
Cobalt-60	249.5	261	A		-4.4	182.70 - 339.30	5.4	L	(Bq/L)		
Hydrogen-3	NR	527				368.90 - 685.10					
Iron-55	NR	196				137.20 - 254.80					
Manganese-54	397.8	418	A		-4.8	292.60 - 543.40	8.6	L	(Bq/L)		
Nickel-63	NR	100				70.00 - 130.00					
Plutonium-238	NR	1.67				1.34 - 2.48					
Plutonium-239/240	NR	2.45				1.92 - 3.58					
Strontium-90	NR	8.98				6.29 - 11.67					
Technetium-99	NR	66.5				46.55 - 86.45					
Uranium-234/233	NR	4.1				2.87 - 5.33					
Uranium-238	NR	4.26				2.98 - 5.54					
Zinc-65	335.6	330	A		1.7	231.00 - 429.00	7.8	L	(Bq/L)		

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

GPLP01

GPL Laboratories, LLLP

7210A Corporate Court

Sample ID: MAPEP-05-MaW14

Frederick MD

21703

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.73	1.77	A		-2.3	1.24 - 2.30			(mg/L)
Arsenic	1.96	2.04	A		-3.9	1.43 - 2.65			(mg/L)
Barium	17.4	16.34	A		6.5	11.44 - 21.24			(mg/L)
Beryllium	1.29	1.276	A		1.1	0.89 - 1.66			(mg/L)
Cadmium	< 0.006		A						(mg/L)
Chromium	1.27	1.27	A		0.0	0.89 - 1.65			(mg/L)
Copper	3.76	3.80	A		-1.1	2.66 - 4.94			(mg/L)
Lead	< 0.010		A						(mg/L)
Mercury	0.00818	0.00885	A		-7.6	0.01 - 0.01			(mg/L)
Nickel	1.39	1.457	A		-4.6	1.02 - 1.89			(mg/L)
Selenium	0.420	0.443	A		-5.2	0.31 - 0.58			(mg/L)
Silver	< 0.005		A						(mg/L)
Thallium	5.40	4.97	A		8.7	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.901	0.876	A		2.9	0.61 - 1.14			(mg/L)
Zinc	4.98	4.57	A		9.0	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	167	167	A		0.0	116.90 - 217.10	2.5	L	(Bq/L)
Cesium-137	360	333	A		8.1	233.10 - 432.90	8.4	L	(Bq/L)
Cobalt-57	318	272	A		16.9	190.40 - 353.60	6.8	L	(Bq/L)
Cobalt-60	284	261	A		8.8	182.70 - 339.30	4.1	L	(Bq/L)
Hydrogen-3	589.0	527	A		11.8	368.90 - 685.10	21.5		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	466	418	A		11.5	292.60 - 543.40	9.3	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	381	330	A		15.5	231.00 - 429.00	8.3	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

GPLP01

GPL Laboratories, LLLP

7210A Corporate Court

Frederick

MD

21703

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

GROW01

FGL Environmental

853 Corporation St.

Sample ID: MAPEP-05-MaW14

Santa Paula CA

93060-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.821	1.77	A		2.9	1.24 - 2.30			(mg/L)
Arsenic	2.184	2.04	A		7.1	1.43 - 2.65			(mg/L)
Barium	17.350	16.34	A		6.2	11.44 - 21.24			(mg/L)
Beryllium	1.422	1.276	A		11.4	0.89 - 1.66			(mg/L)
Cadmium	<0.01		A						(mg/L)
Chromium	1.288	1.27	A		1.4	0.89 - 1.65			(mg/L)
Copper	4.016	3.80	A		5.7	2.66 - 4.94			(mg/L)
Lead	<0.01		A						(mg/L)
Mercury	0.00785	0.00885	A		-11.3	0.01 - 0.01			(mg/L)
Nickel	1.433	1.457	A		-1.6	1.02 - 1.89			(mg/L)
Selenium	0.389	0.443	A		-12.2	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	5.020	4.97	A		1.0	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.959	0.876	A		9.5	0.61 - 1.14			(mg/L)
Zinc	5.210	4.57	A		14.0	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	180	167	A		7.8	116.90 - 217.10	19		(Bq/L)
Cesium-137	335.3	333	A		0.7	233.10 - 432.90	35		(Bq/L)
Cobalt-57	271	272	A		-0.4	190.40 - 353.60	38		(Bq/L)
Cobalt-60	264	261	A		1.1	182.70 - 339.30	5	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	431	418	A		3.1	292.60 - 543.40	52		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	331	330	A		0.3	231.00 - 429.00	48		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

GROW01

FGL Environmental
853 Corporation St.
Santa Paula CA 93060-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

HCAL01

Hazards Control Analytical Lab

Lawrence Livermore National

Livermore

CA

94551

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	543	527	A		3.0	368.90 - 685.10	29		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

HWRL01

Lawrence Livermore National Laboratory - HWRL

Sample ID: MAPEP-05-MaW14

7000 East Avenue

Livermore

CA

94551

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.75	1.77	A		-1.1	1.24 - 2.30			(mg/L)
Arsenic	2.05	2.04	A		0.5	1.43 - 2.65			(mg/L)
Barium	16.2	16.34	A		-0.9	11.44 - 21.24			(mg/L)
Beryllium	1.27	1.276	A		-0.5	0.89 - 1.66			(mg/L)
Cadmium	<.006		A						(mg/L)
Chromium	1.31	1.27	A		3.2	0.89 - 1.65			(mg/L)
Cobalt	<0.007								(mg/L)
Copper	3.84	3.80	A		1.1	2.66 - 4.94			(mg/L)
Lead	<0.024		A						(mg/L)
Manganese	<0.003								(mg/L)
Mercury	0.0081	0.00885	A		-8.5	0.01 - 0.01			(mg/L)
Molybdenum	0.011								(mg/L)
Nickel	1.47	1.457	A		0.9	1.02 - 1.89			(mg/L)
Potassium	0.433								(mg/L)
Selenium	0.432	0.443	A		-2.5	0.31 - 0.58			(mg/L)
Silver	<0.011		A						(mg/L)
Thallium	5.20	4.97	A		4.6	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.773	0.876	A		-11.8	0.61 - 1.14			(mg/L)
Zinc	4.45	4.57	A		-2.6	3.20 - 5.94			(mg/L)
Americium-241	2.12	2.23	A		-4.9	1.56 - 2.90	.231		(Bq/L)
Cesium-134	160.	167	A		-4.2	116.90 - 217.10	16.0		(Bq/L)
Cesium-137	330.	333	A		-0.9	233.10 - 432.90	32.6		(Bq/L)
Cobalt-57	270.	272	A		-0.7	190.40 - 353.60	26.8		(Bq/L)
Cobalt-60	250.	261	A		-4.2	182.70 - 339.30	24.8		(Bq/L)
Hydrogen-3	503.	527	A		-4.6	368.90 - 685.10	24.7		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	430.	418	A		2.9	292.60 - 543.40	43.4		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.86	1.67	A		11.4	1.34 - 2.48	.0718		(Bq/L)
Plutonium-239/240	2.61	2.45	A		6.5	1.92 - 3.58	.0931		(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	3.75	4.1	A		-8.5	2.87 - 5.33	.248		(Bq/L)
Uranium-238	3.91	4.26	A		-8.2	2.98 - 5.54	.258		(Bq/L)
Zinc-65	370.	330	A		12.1	231.00 - 429.00	37.4		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

HWRL01

Lawrence Livermore National Laboratory - HWRL
7000 East Avenue
Livermore CA 94551

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

IAEA99

International Atomic Energy Agency

Agency's Laboratories Seibersdorf

Sample ID: MAPEP-05-MaW14

	Seibersdorf	Austria	A-2444	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	2.121	2.04	A		4.0	1.43 - 2.65	0.044	L	(mg/L)
Barium	16.71	16.34	A		2.3	11.44 - 21.24	0.30	L	(mg/L)
Beryllium	1.338	1.276	A		4.9	0.89 - 1.66	0.154		(mg/L)
Cadmium	<0.006		A						(mg/L)
Chromium	1.278	1.27	A		0.6	0.89 - 1.65	0.044		(mg/L)
Copper	3.953	3.80	A		4.0	2.66 - 4.94	0.046	L	(mg/L)
Lead	<0.090		A	19					(mg/L)
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	1.443	1.457	A		-1.0	1.02 - 1.89	0.082		(mg/L)
Selenium	0.469	0.443	A		5.9	0.31 - 0.58	0.046		(mg/L)
Thallium	4.779	4.97	A		-3.8	3.48 - 6.46	0.085	L	(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.850	0.876	A		-3.0	0.61 - 1.14	0.062		(mg/L)
Zinc	4.690	4.57	A		2.6	3.20 - 5.94	0.149		(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

IAEA99

International Atomic Energy Agency

Agency's Laboratories Seibersdorf

Seibersdorf

Austria A-2444

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable	Bias <= 20%
W = Result acceptable with warning	20% < Bias <= 30%
N = Result not acceptable	Bias > 30%
L = Uncertainty potentially too low	
H = Uncertainty potentially too high	
Q = Participant should evaluate reported value	
QL = Quantitation Limit	
RW = Report Warning	
NR = Not Reported	

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

IDGR01

Oak Ridge National Laboratory-Internal Dosimetry Group

Sample ID: MAPEP-05-MaW14

Bethel Valley Road

Oak Ridge

TN

37831-6105

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.2303	2.23	A		0.0	1.56 - 2.90	0.2066		(Bq/L)
Cesium-134	157.5782	167	A		-5.6	116.90 - 217.10	4.8521		(Bq/L)
Cesium-137	348.0235	333	A		4.5	233.10 - 432.90	12.3391		(Bq/L)
Cobalt-57	283.7267	272	A		4.3	190.40 - 353.60	6.6924	L	(Bq/L)
Cobalt-60	262.9686	261	A		0.8	182.70 - 339.30	7.3217	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	436.8775	418	A		4.5	292.60 - 543.40	13.4012		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.6184	1.67	A		-3.1	1.34 - 2.48	0.1590		(Bq/L)
Plutonium-239/240	2.2299	2.45	A		-9.0	1.92 - 3.58	0.2175		(Bq/L)
Strontium-90	8.8592	8.98	A		-1.3	6.29 - 11.67	0.7483		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.0798	4.1	A		-0.5	2.87 - 5.33	0.4517		(Bq/L)
Uranium-238	4.3691	4.26	A			2.6 - 5.54	0.4831		(Bq/L)
Zinc-65	351.5019	330	A		6.5	231.00 - 429.00	17.3838		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ISUP01

ISU - Department of Physics/Health Physics/EAL

Sample ID: MAPEP-05-MaW14

785 S. 8th Ave, Rm 120

Pocatello

ID

83209-8106

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	148.7	167	A		-11.0	116.90 - 217.10	1.5	L	(Bq/L)
Cesium-137	326.2	333	A		-2.0	233.10 - 432.90	6.7	L	(Bq/L)
Cobalt-57	274.5	272	A		0.9	190.40 - 353.60	5.7	L	(Bq/L)
Cobalt-60	269.2	261	A		3.1	182.70 - 339.30	4.0	L	(Bq/L)
Hydrogen-3	505.8	527	A		-4.0	368.90 - 685.10	4.9	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	420.6	418	A		0.6	292.60 - 543.40	8.0	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	361.0	330	A		9.4	231.00 - 429.00	7.2	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

JAEC99

Radiation Measurements Laboratory

Jordan Atomic Energy Commission

Amman

00962 6

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.89	2.23	A		-15.2	1.56 - 2.90	0.46	H	(Bq/L)
Cesium-134	138.67	167	A		-17.0	116.90 - 217.10	1.96	L	(Bq/L)
Cesium-137	305.67	333	A		-8.2	233.10 - 432.90	7.84	L	(Bq/L)
Cobalt-57	405.89	272	N		49.2	190.40 - 353.60	3.92	L	(Bq/L)
Cobalt-60	245.57	261	A		-5.9	182.70 - 339.30	1.96	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	394.11	418	A		-5.7	292.60 - 543.40	3.92	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	9.63	8.98	A		7.2	6.29 - 11.67	0.39		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	3.099	4.1	W		-24.4	2.87 - 5.33	0.35		(Bq/L)
Uranium-238	3.248	4.26	W		-23.8	2.98 - 5.54	0.37		(Bq/L)
Zinc-65	334.02	330	A		1.2	231.00 - 429.00	3.92	L	(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

JLNN01

Jefferson Laboratory

12000 Jefferson Ave

Newport News

VA

23606

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	155.4	167	A		-6.9	116.90 - 217.10	3.1	L	(Bq/L)
Cesium-137	334.9	333	A		0.6	233.10 - 432.90	7.8	L	(Bq/L)
Cobalt-57	280.5	272	A		3.1	190.40 - 353.60	5.6	L	(Bq/L)
Cobalt-60	265.3	261	A		1.6	182.70 - 339.30	4.4	L	(Bq/L)
Hydrogen-3	499.5	527	A		-5.2	368.90 - 685.10	9.9	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	418.1	418	A		0.0	292.60 - 543.40	7.4	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	348.2	330	A		5.5	231.00 - 429.00	10.4	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

LAWR01

LAWRENCE BERKELEY NATIONAL LABORATORY
1 CYCLOTRON RD.

Sample ID: MAPEP-05-MaW14

BERKELEY CA 94720

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	3.92	2.23	N		75.8	1.56 - 2.90	1.39	H	(Bq/L)
Cesium-134	147	167	A		-12.0	116.90 - 217.10	4.38	L	(Bq/L)
Cesium-137	331	333	A		-0.6	233.10 - 432.90	10.3		(Bq/L)
Cobalt-57	271	272	A		-0.4	190.40 - 353.60	9.16		(Bq/L)
Cobalt-60	263	261	A		0.8	182.70 - 339.30	9.92		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	425	418	A		1.7	292.60 - 543.40	14.9		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	363	330	A		10.0	231.00 - 429.00	13.6		(Bq/L)

- Flags:** A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported
- Flag Text:** 1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

LAWR02

Lawrence Livermore National Laboratory

Sample ID: MAPEP-05-MaW14

7000 East Avenue

Livermore

CA

94551-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	159	167	A		-4.8	116.90 - 217.10	5.0		(Bq/L)
Cesium-137	340	333	A		2.1	233.10 - 432.90	11		(Bq/L)
Cobalt-57	282	272	A		3.7	190.40 - 353.60	8.7		(Bq/L)
Cobalt-60	269	261	A		3.1	182.70 - 339.30	8.3		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	427	418	A		2.2	292.60 - 543.40	13		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	345	330	A		4.5	231.00 - 429.00	11		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

LOCK01

ICP Analytical Laboratories Department

Sample ID: MAPEP-05-MaW14

CH2M-WG Idaho, LLC

Idaho Falls		ID	83415-5210		Mixed Analyte Water Standard				
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.75	1.77	A		-1.1	1.24 - 2.30	0.17		(mg/L)
Arsenic	2.04	2.04	A		0.0	1.43 - 2.65	0.20		(mg/L)
Barium	17.5	16.34	A		7.1	11.44 - 21.24	1.7		(mg/L)
Beryllium	1.29	1.276	A		1.1	0.89 - 1.66	0.13		(mg/L)
Cadmium	<0.0007		A						(mg/L)
Chromium	1.31	1.27	A		3.2	0.89 - 1.65	0.13		(mg/L)
Copper	3.81	3.80	A		0.3	2.66 - 4.94	0.38		(mg/L)
Lead	<0.006		A						(mg/L)
Mercury	0.00852	0.00885	A		-3.7	0.01 - 0.01	0.00085		(mg/L)
Nickel	1.44	1.457	A		-1.2	1.02 - 1.89	0.14		(mg/L)
Selenium	0.44	0.443	A		-0.7	0.31 - 0.58	0.04		(mg/L)
Silver	<0.003		A						(mg/L)
Thallium	4.89	4.97	A		-1.6	3.48 - 6.46	0.49		(mg/L)
Uranium-Total	0.34	0.344	A		-1.2	0.24 - 0.45	0.03		(mg/L)
Uranium-234	0.0000172						0.0000017		(mg/L)
Uranium-235	0.00232	0.00248	A		-6.4	0.00 - 0.00	0.00023		(mg/L)
Uranium-238	0.336	0.342				0.24 - 0.44	0.034		(mg/L)
Vanadium	0.88	0.876	A		0.5	0.61 - 1.14	0.09		(mg/L)
Zinc	4.60	4.57	A		0.7	3.20 - 5.94	0.46		(mg/L)
Americium-241	2.26	2.23	A		1.3	1.56 - 2.90	0.26		(Bq/L)
Cesium-134	159	167	A		-4.8	116.90 - 217.10	10		(Bq/L)
Cesium-137	330	333	A		-0.9	233.10 - 432.90	21		(Bq/L)
Cobalt-57	271	272	A		-0.4	190.40 - 353.60	17		(Bq/L)
Cobalt-60	262	261	A		0.4	182.70 - 339.30	18		(Bq/L)
Hydrogen-3	475	527	A		-9.9	368.90 - 685.10	3	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	418	418	A		0.0	292.60 - 543.40	29		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.66	1.67	A		-0.6	1.34 - 2.48	0.22		(Bq/L)
Plutonium-239/240	2.15	2.45	A		-12.2	1.92 - 3.58	0.28		(Bq/L)
Strontium-90	0.0832	8.98	N		-99.1	6.29 - 11.67	0.0023	L	(Bq/L)
Technetium-99	26.8	66.5	N		-59.7	46.55 - 86.45	0.3	L	(Bq/L)
Uranium-234/233	3.91	4.1	A		-4.6	2.87 - 5.33	0.49		(Bq/L)
Uranium-238	3.98	4.26	A		-6.6	2.98 - 5.54	0.56		(Bq/L)
Zinc-65	347	330	A		5.2	231.00 - 429.00	24		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

LOCK01

ICP Analytical Laboratories Department

CH2M-WG Idaho, LLC

Idaho Falls

ID

83415-5210

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
L = Uncertainty potentially too low			5 - Total Metal
H = Uncertainty potentially too high			6 - Not Evaluated
Q = Participant should evaluate reported value			7 - DL > CLP Limit
QL = Quantitation Limit			9 - Check QL
RW = Report Warning			10 - Check Isomer
NR = Not Reported			11 - False Positive Test, Value Not Reported
			14 - Solubility Issue
			15 - Refractory
			16 - Reported zero uncertainty
			17 - NOT DETECTED, reported a statistically zero result.
			18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

LOCK03

RADIATION MEASUREMENTS LABORATORY/AEDL

Sample ID: MAPEP-05-MaW14

INEEL

Idaho Falls		ID	83415-7111		Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units	
Antimony	NR	1.77				1.24 - 2.30				
Arsenic	NR	2.04				1.43 - 2.65				
Barium	NR	16.34				11.44 - 21.24				
Beryllium	NR	1.276				0.89 - 1.66				
Chromium	NR	1.27				0.89 - 1.65				
Copper	NR	3.80				2.66 - 4.94				
Mercury	NR	0.00885				0.01 - 0.01				
Nickel	NR	1.457				1.02 - 1.89				
Selenium	NR	0.443				0.31 - 0.58				
Thallium	NR	4.97				3.48 - 6.46				
Uranium-Total	NR	0.344				0.24 - 0.45				
Uranium-235	NR	0.00248				0.00 - 0.00				
Uranium-238	NR	0.342				0.24 - 0.44				
Vanadium	NR	0.876				0.61 - 1.14				
Zinc	NR	4.57				3.20 - 5.94				
Americium-241	2.13	2.23	A		-4.5	1.56 - 2.90	0.09		(Bq/L)	
Cesium-134	150	167	A		-10.2	116.90 - 217.10	11		(Bq/L)	
Cesium-137	317	333	A		-4.8	233.10 - 432.90	20		(Bq/L)	
Cobalt-57	271	272	A		-0.4	190.40 - 353.60	19		(Bq/L)	
Cobalt-60	256	261	A		-1.9	182.70 - 339.30	18		(Bq/L)	
Hydrogen-3	568	527	A		7.8	368.90 - 685.10	43		(Bq/L)	
Iron-55	NR	196				137.20 - 254.80				
Manganese-54	410	418	A		-1.9	292.60 - 543.40	30		(Bq/L)	
Nickel-63	NR	100				70.00 - 130.00				
Plutonium-238	1.36	1.67	A		-18.6	1.34 - 2.48	0.06		(Bq/L)	
Plutonium-239/240	1.86	2.45	W		-24.1	1.92 - 3.58	0.08		(Bq/L)	
Strontium-90	NR	8.98				6.29 - 11.67				
Technetium-99	NR	66.5				46.55 - 86.45				
Uranium-234/233	3.90	4.1	A		-4.9	2.87 - 5.33	0.18		(Bq/L)	
Uranium-238	4.07	4.26	A		-4.5	2.98 - 5.54	.19		(Bq/L)	
Zinc-65	340	330	A		3.0	231.00 - 429.00	23		(Bq/L)	

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

MART01

USEC, Inc.

Lab COC, Bldg. X-710, Rm 222

Piketon

OH

45661-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.83	1.77	A		3.4	1.24 - 2.30			(mg/L)
Arsenic	2.19	2.04	A		7.4	1.43 - 2.65			(mg/L)
Barium	17.3	16.34	A		5.9	11.44 - 21.24			(mg/L)
Beryllium	1.30	1.276	A		1.9	0.89 - 1.66			(mg/L)
Chromium	1.33	1.27	A		4.7	0.89 - 1.65			(mg/L)
Copper	3.90	3.80	A		2.6	2.66 - 4.94			(mg/L)
Mercury	0.0081	0.00885	A		-8.5	0.01 - 0.01			(mg/L)
Nickel	1.54	1.457	A		5.7	1.02 - 1.89			(mg/L)
Selenium	0.502	0.443	A		13.3	0.31 - 0.58			(mg/L)
Thallium	5.02	4.97	A		1.0	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.902	0.876	A		3.0	0.61 - 1.14			(mg/L)
Zinc	4.68	4.57	A		2.4	3.20 - 5.94			(mg/L)
Americium-241	2.022	2.23	A		-9.3	1.56 - 2.90	0.134		(Bq/L)
Cesium-134	144.9	167	A		-13.2	116.90 - 217.10	5.6		(Bq/L)
Cesium-137	323.4	333	A		-2.9	233.10 - 432.90	11.0		(Bq/L)
Cobalt-57	271.5	272	A		-0.2	190.40 - 353.60	8.0	L	(Bq/L)
Cobalt-60	261.7	261	A		0.3	182.70 - 339.30	5.5	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	417.2	418	A		-0.2	292.60 - 543.40	14.7		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.913	1.67	A		14.6	1.34 - 2.48	0.151		(Bq/L)
Plutonium-239/240	2.663	2.45	A		8.7	1.92 - 3.58	0.207		(Bq/L)
Strontium-90	8.40	8.98	A		-6.5	6.29 - 11.67	0.28		(Bq/L)
Technetium-99	64.8	66.5	A		-2.6	46.55 - 86.45	1.0	L	(Bq/L)
Uranium-234/233	3.676	4.1	A		-10.3	2.87 - 5.33	0.258		(Bq/L)
Uranium-238	3.772	4.26	A		-11.5	2.98 - 5.54	0.266		(Bq/L)
Zinc-65	353.6	330	A		7.2	231.00 - 429.00	8.7	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

MART02

United States Enrichment Corporation

Sample ID: MAPEP-05-MaW14

5600 Hobbs Road

Paducah

KY

42001-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.720	1.77	A		-2.8	1.24 - 2.30			(mg/L)
Arsenic	1.95	2.04	A		-4.4	1.43 - 2.65			(mg/L)
Barium	15.0	16.34	A		-8.2	11.44 - 21.24			(mg/L)
Beryllium	1.31	1.276	A		2.7	0.89 - 1.66			(mg/L)
Cadmium	<0.001		A						(mg/L)
Chromium	1.190	1.27	A		-6.3	0.89 - 1.65			(mg/L)
Copper	3.56	3.80	A		-6.3	2.66 - 4.94			(mg/L)
Lead	<0.005		A						(mg/L)
Mercury	0.0069	0.00885	W		-22.0	0.01 - 0.01			(mg/L)
Nickel	1.36	1.457	A		-6.7	1.02 - 1.89			(mg/L)
Selenium	0.438	0.443	A		-1.1	0.31 - 0.58			(mg/L)
Thallium	4.95	4.97	A		-0.4	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.834	0.876	A		-4.8	0.61 - 1.14			(mg/L)
Zinc	4.08	4.57	A		-10.7	3.20 - 5.94			(mg/L)
Americium-241	2.18	2.23	A		-2.2	1.56 - 2.90	.0416	L	(Bq/L)
Cesium-134	153	167	A		-8.4	116.90 - 217.10	15.4		(Bq/L)
Cesium-137	319	333	A		-4.2	233.10 - 432.90	38.8		(Bq/L)
Cobalt-57	266	272	A		-2.2	190.40 - 353.60	26.2		(Bq/L)
Cobalt-60	250	261	A		-4.2	182.70 - 339.30	24.0		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	406	418	A		-2.9	292.60 - 543.40	42.6		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.71	1.67	A		2.4	1.34 - 2.48	0.33		(Bq/L)
Plutonium-239/240	2.5	2.45	A		2.0	1.92 - 3.58	0.471		(Bq/L)
Strontium-90	9.18	8.98	A		2.2	6.29 - 11.67	0.522		(Bq/L)
Technetium-99	65.6	66.5	A		-1.4	46.55 - 86.45	2.85		(Bq/L)
Uranium-234/233	4.4	4.1	A		7.3	2.87 - 5.33	0.861		(Bq/L)
Uranium-238	4.3	4.26	A		0.9	2.98 - 5.54	0.842		(Bq/L)
Zinc-65	334	330	A		1.2	231.00 - 429.00	34.5		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

MART02

United States Enrichment Corporation
5600 Hobbs Road
Paducah KY 42001-

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

MART03

Radioactive Material Analysis Laboratory

Sample ID: MAPEP-05-MaW14

ORNL

Oak Ridge

TN

37831-6043

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.69	1.77	A		-4.5	1.24 - 2.30	0.17		(mg/L)
Arsenic	1.92	2.04	A		-5.9	1.43 - 2.65	0.19		(mg/L)
Barium	16.4	16.34	A		0.4	11.44 - 21.24	1.6		(mg/L)
Beryllium	1.18	1.276	A		-7.5	0.89 - 1.66	0.12		(mg/L)
Cadmium	<0.033		A						(mg/L)
Chromium	1.25	1.27	A		-1.6	0.89 - 1.65	0.12		(mg/L)
Copper	3.70	3.80	A		-2.6	2.66 - 4.94	0.37		(mg/L)
Lead	<0.084		A	19					(mg/L)
Mercury	0.0105	0.00885	A		18.6	0.01 - 0.01	0.001		(mg/L)
Nickel	1.42	1.457	A		-2.5	1.02 - 1.89	0.14		(mg/L)
Selenium	0.424	0.443	A		-4.3	0.31 - 0.58	0.042		(mg/L)
Silver	<0.033		A						(mg/L)
Thallium	4.82	4.97	A		-3.0	3.48 - 6.46	0.48		(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.844	0.876	A		-3.7	0.61 - 1.14	0.084		(mg/L)
Zinc	4.33	4.57	A		-5.3	3.20 - 5.94	0.43		(mg/L)
Americium-241	2.15	2.23	A		-3.6	1.56 - 2.90	0.22		(Bq/L)
Cesium-134	148	167	A		-11.4	116.90 - 217.10	15		(Bq/L)
Cesium-137	324	333	A		-2.7	233.10 - 432.90	32		(Bq/L)
Cobalt-57	272	272	A		0.0	190.40 - 353.60	27		(Bq/L)
Cobalt-60	261	261	A		0.0	182.70 - 339.30	26		(Bq/L)
Hydrogen-3	510	527	A		-3.2	368.90 - 685.10	51		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	419	418	A		0.2	292.60 - 543.40	42		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.78	1.67	A		6.6	1.34 - 2.48	0.18		(Bq/L)
Plutonium-239/240	2.43	2.45	A		-0.8	1.92 - 3.58	0.24		(Bq/L)
Strontium-90	8.88	8.98	A		-1.1	6.29 - 11.67	0.89		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.48	4.1	A		9.3	2.87 - 5.33	0.45		(Bq/L)
Uranium-238	4.48	4.26	A		5.2	2.98 - 5.54	0.45		(Bq/L)
Zinc-65	349	330	A		5.8	231.00 - 429.00	35		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

MART03

Radioactive Material Analysis Laboratory

ORNL

Oak Ridge

TN

37831-6043

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%

20% < Bias <= 30%

Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

MDPH01

MDPH-Radiation Control Program

MERL-Room 002

Sample ID: MAPEP-05-MaW14

Jamaica Plain

MA

02130-3597

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	155.8	167	A		-6.7	116.90 - 217.10	1.78	L	(Bq/L)
Cesium-137	335.1	333	A		0.6	233.10 - 432.90	6.13	L	(Bq/L)
Cobalt-57	288.4	272	A		6.0	190.40 - 353.60	5.36	L	(Bq/L)
Cobalt-60	267.1	261	A		2.3	182.70 - 339.30	3.42	L	(Bq/L)
Hydrogen-3	549.9	527	A		4.3	368.90 - 685.10	13.9	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	427.4	418	A		2.2	292.60 - 543.40	6.95	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	354.1	330	A		7.3	231.00 - 429.00	6.61	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NARL01

National Air and Radiation Environmental Laboratory
540 S. Morris Ave.

Sample ID: MAPEP-05-MaW14

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Mixed Analyte Water Standard		
						Acceptance Range	Unc Value	Unc. Flag
Montgomery	AL	36115-2601						
Antimony	1.70	1.77	A		-4.0	1.24 - 2.30		(mg/L)
Arsenic	2.00	2.04	A		-2.0	1.43 - 2.65		(mg/L)
Barium	15.6	16.34	A		-4.5	11.44 - 21.24		(mg/L)
Beryllium	1.26	1.276	A		-1.3	0.89 - 1.66		(mg/L)
Cadmium	0.00017		A					(mg/L)
Chromium	1.30	1.27	A		2.4	0.89 - 1.65		(mg/L)
Copper	3.72	3.80	A		-2.1	2.66 - 4.94		(mg/L)
Lead	0.000458		A					(mg/L)
Mercury	0.007	0.00885	W		-20.9	0.01 - 0.01		(mg/L)
Nickel	1.51	1.457	A		3.6	1.02 - 1.89		(mg/L)
Selenium	0.45	0.443	A		1.6	0.31 - 0.58		(mg/L)
Thallium	4.96	4.97	A		-0.2	3.48 - 6.46		(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45		
Uranium-235	NR	0.00248				0.00 - 0.00		
Uranium-238	NR	0.342				0.24 - 0.44		
Vanadium	0.905	0.876	A		3.3	0.61 - 1.14		(mg/L)
Zinc	4.60	4.57	A		0.7	3.20 - 5.94		(mg/L)
Americium-241	NR	2.23				1.56 - 2.90		
Cesium-134	153.0	167	A		-8.4	116.90 - 217.10	4.4	L (Bq/L)
Cesium-137	333.3	333	A		0.1	233.10 - 432.90	9.6	L (Bq/L)
Cobalt-57	274.0	272	A		0.7	190.40 - 353.60	7.8	L (Bq/L)
Cobalt-60	255.2	261	A		-2.2	182.70 - 339.30	7.3	L (Bq/L)
Hydrogen-3	514.5	527	A		-2.4	368.90 - 685.10	6.4	L (Bq/L)
Iron-55	NR	196				137.20 - 254.80		
Manganese-54	425	418	A		1.7	292.60 - 543.40	12	L (Bq/L)
Nickel-63	NR	100				70.00 - 130.00		
Plutonium-238	1.668	1.67	A		-0.1	1.34 - 2.48	0.061	(Bq/L)
Plutonium-239/240	2.283	2.45	A		-6.8	1.92 - 3.58	0.080	(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67		
Technetium-99	71.78	66.5	A		7.9	46.55 - 86.45	0.73	L (Bq/L)
Uranium-234/233	4.12	4.1	A		0.5	2.87 - 5.33	0.16	(Bq/L)
Uranium-238	4.22	4.26	A		-0.9	2.98 - 5.54	0.17	(Bq/L)
Zinc-65	346	330	A		4.8	231.00 - 429.00	10	L (Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

NARL01

National Air and Radiation Environmental Laboratory
540 S. Morris Ave.
Montgomery AL 36115-2601

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NESI01

BWXT Services-Nuclear Environmental Laboratory Servi

Sample ID: MAPEP-05-MaW14

Lynchburg Technology Center

Lynchburg

VA

24504-5447

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.77	1.77	A		0.0	1.24 - 2.30			(mg/L)
Arsenic	2.00	2.04	A		-2.0	1.43 - 2.65			(mg/L)
Barium	16.8	16.34	A		2.8	11.44 - 21.24			(mg/L)
Beryllium	1.35	1.276	A		5.8	0.89 - 1.66			(mg/L)
Cadmium	< 0.0002		A						(mg/L)
Chromium	1.24	1.27	A		-2.4	0.89 - 1.65			(mg/L)
Copper	3.76	3.80	A		-1.1	2.66 - 4.94			(mg/L)
Lead	< 0.0009		A						(mg/L)
Mercury	0.0085	0.00885	A		-4.0	0.01 - 0.01			(mg/L)
Nickel	1.42	1.457	A		-2.5	1.02 - 1.89			(mg/L)
Selenium	0.426	0.443	A		-3.8	0.31 - 0.58			(mg/L)
Silver	0.003		A						(mg/L)
Thallium	4.85	4.97	A		-2.4	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.869	0.876	A		-0.8	0.61 - 1.14			(mg/L)
Zinc	4.33	4.57	A		-5.3	3.20 - 5.94			(mg/L)
Americium-241	2.24	2.23	A		0.4	1.56 - 2.90	0.11		(Bq/L)
Cesium-134	139	167	A		-16.8	116.90 - 217.10	3.9	L	(Bq/L)
Cesium-137	305	333	A		-8.4	233.10 - 432.90	8.9	L	(Bq/L)
Cobalt-57	246	272	A		-9.6	190.40 - 353.60	5.8	L	(Bq/L)
Cobalt-60	250	261	A		-4.2	182.70 - 339.30	4.8	L	(Bq/L)
Hydrogen-3	559	527	A		6.1	368.90 - 685.10	29.5		(Bq/L)
Iron-55	104	196	N		-46.9	137.20 - 254.80	7.8		(Bq/L)
Manganese-54	370	418	A		-11.5	292.60 - 543.40	9.6	L	(Bq/L)
Nickel-63	494	100	N		394.0	70.00 - 130.00	41.9		(Bq/L)
Plutonium-238	1.73	1.67	A		3.6	1.34 - 2.48	0.08		(Bq/L)
Plutonium-239/240	2.36	2.45	A		-3.7	1.92 - 3.58	0.10		(Bq/L)
Strontium-90	7.79	8.98	A		-13.3	6.29 - 11.67	0.56		(Bq/L)
Technetium-99	67.7	66.5	A		1.8	46.55 - 86.45	1.43	L	(Bq/L)
Uranium-234/233	3.86	4.1	A		-5.9	2.87 - 5.33	0.16		(Bq/L)
Uranium-238	4.16	4.26	A		-2.3	2.98 - 5.54	0.18		(Bq/L)
Zinc-65	308	330	A		-6.7	231.00 - 429.00	6.0	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

NESI01

BWXT Services-Nuclear Environmental Laboratory Servi
Lynchburg Technology Center
Lynchburg VA 24504-5447

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NJDH01

New Jersey Dept. of Health & Senior Services, PHEL, E

Sample ID: MAPEP-05-MaW14

Market and Warren Streets

Trenton

NJ

08625-0361

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.51	2.23	N		-32.3	1.56 - 2.90	0.36	H	(Bq/L)
Cesium-134	150	167	A		-10.2	116.90 - 217.10	3	L	(Bq/L)
Cesium-137	310	333	A		-6.9	233.10 - 432.90	11		(Bq/L)
Cobalt-57	263	272	A		-3.3	190.40 - 353.60	6	L	(Bq/L)
Cobalt-60	248	261	A		-5.0	182.70 - 339.30	5	L	(Bq/L)
Hydrogen-3	539	527	A		2.3	368.90 - 685.10	5	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	399	418	A		-4.5	292.60 - 543.40	12		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	8.55	8.98	A		-4.8	6.29 - 11.67	0.15	L	(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.32	4.1	A		5.4	2.87 - 5.33	0.15		(Bq/L)
Uranium-238	4.54	4.26	A		6.6	2.98 - 5.54	0.16		(Bq/L)
Zinc-65	328	330	A		-0.6	231.00 - 429.00	10		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NMLA01

assaigai Analytical Laboratories

4301 Masthead NE

Albuquerque

NM

87109

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Aluminum	<0.5								(mg/L)
Antimony	1.90	1.77	A		7.3	1.24 - 2.30			(mg/L)
Arsenic	1.95	2.04	A		-4.4	1.43 - 2.65			(mg/L)
Barium	8.06	16.34	N		-50.7	11.44 - 21.24			(mg/L)
Beryllium	1.24	1.276	A		-2.8	0.89 - 1.66			(mg/L)
Cadmium	0.054		N	1					(mg/L)
Calcium	37.8								(mg/L)
Chromium	1.27	1.27	A		0.0	0.89 - 1.65			(mg/L)
Cobalt	<0.005								(mg/L)
Copper	3.38	3.80	A		-11.1	2.66 - 4.94			(mg/L)
Iron	<0.5								(mg/L)
Lead	<0.005		A						(mg/L)
Magnesium	9.44								(mg/L)
Manganese	0.004								(mg/L)
Mercury	0.00871	0.00885	A		-1.6	0.01 - 0.01			(mg/L)
Nickel	1.42	1.457	A		-2.5	1.02 - 1.89			(mg/L)
Potassium	<0.5								(mg/L)
Selenium	0.455	0.443	A		2.7	0.31 - 0.58			(mg/L)
Silver	<0.005		A						(mg/L)
Sodium	2.07								(mg/L)
Thallium	2.50	4.97	N		-49.7	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.894	0.876	A		2.1	0.61 - 1.14			(mg/L)
Zinc	2.10	4.57	N		-54.0	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

NMLA01

Assaigai Analytical Laboratories
4301 Masthead NE
Albuquerque NM 87109

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NRLL99

National Radiation Laboratory

108 Victoria St

Christchurch

Christchu 8001

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.25	2.23	A		0.9	1.56 - 2.90	0.26		(Bq/L)
Cesium-134	149.4	167	A		-10.5	116.90 - 217.10	2.7	L	(Bq/L)
Cesium-137	308.7	333	A		-7.3	233.10 - 432.90	4.9	L	(Bq/L)
Cobalt-57	263.7	272	A		-3.1	190.40 - 353.60	6.9	L	(Bq/L)
Cobalt-60	245.8	261	A		-5.8	182.70 - 339.30	6.7	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	390.6	418	A		-6.6	292.60 - 543.40	6.7	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	319.6	330	A		-3.2	231.00 - 429.00	8.4	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

NTSI01

Nuclear Technology Services, Inc.
635 Hembree Parkway

Sample ID: MAPEP-05-MaW14

Roswell GA 30076

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.930	2.23	A		-13.5	1.56 - 2.90	0.040	L	(Bq/L)
Cesium-134	151.600	167	A		-9.2	116.90 - 217.10	26.200		(Bq/L)
Cesium-137	325.300	333	A		-2.3	233.10 - 432.90	55.100		(Bq/L)
Cobalt-57	271.040	272	A		-0.4	190.40 - 353.60	47.500		(Bq/L)
Cobalt-60	256.600	261	A		-1.7	182.70 - 339.30	44.200		(Bq/L)
Hydrogen-3	556.000	527	A		5.5	368.90 - 685.10	17.000		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	414.300	418	A		-0.9	292.60 - 543.40	70.100		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.710	1.67	A		2.4	1.34 - 2.48	0.042	L	(Bq/L)
Plutonium-239/240	2.240	2.45	A		-8.6	1.92 - 3.58	0.052	L	(Bq/L)
Strontium-90	9.940	8.98	A		10.7	6.29 - 11.67	1.190		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	3.240	4.1	W		-21.0	2.87 - 5.33	0.071	L	(Bq/L)
Uranium-235	0.190						0.008		(Bq/L)
Uranium-238	3.370	4.26	W		-20.9	2.98 - 5.54	0.073	L	(Bq/L)
Zinc-65	337.400	330	A		2.2	231.00 - 429.00	56.500		(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

OBGL01

O'Brien & Gere Laboratories, Inc.

PO Box 4873

Sample ID: MAPEP-05-MaW14

Syracuse		NY	13221-4873	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.73	1.77	A		-2.3	1.24 - 2.30			(mg/L)
Arsenic	2.00	2.04	A		-2.0	1.43 - 2.65			(mg/L)
Barium	16.4	16.34	A		0.4	11.44 - 21.24			(mg/L)
Beryllium	1.25	1.276	A		-2.0	0.89 - 1.66			(mg/L)
Cadmium	<0.01		A						(mg/L)
Chromium	1.29	1.27	A		1.6	0.89 - 1.65			(mg/L)
Copper	3.81	3.80	A		0.3	2.66 - 4.94			(mg/L)
Lead	<0.005		A						(mg/L)
Mercury	0.00719	0.00885	A		-18.8	0.01 - 0.01			(mg/L)
Nickel	1.46	1.457	A		0.2	1.02 - 1.89			(mg/L)
Selenium	0.437	0.443	A		-1.4	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	5.00	4.97	A		0.6	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.889	0.876	A		1.5	0.61 - 1.14			(mg/L)
Zinc	4.6	4.57	A		0.7	3.20 - 5.94			(mg/L)
Americium-241	2.3	2.23	A		3.1	1.56 - 2.90	0.70	H	(Bq/L)
Cesium-134	154	167	A		-7.8	116.90 - 217.10	13.0		(Bq/L)
Cesium-137	328	333	A		-1.5	233.10 - 432.90	55.6		(Bq/L)
Cobalt-57	285	272	A		4.8	190.40 - 353.60	34.8		(Bq/L)
Cobalt-60	263	261	A		0.8	182.70 - 339.30	31.5		(Bq/L)
Hydrogen-3	519	527	A		-1.5	368.90 - 685.10	32.2		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	425	418	A		1.7	292.60 - 543.40	74.1		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.5	1.67	A		-10.2	1.34 - 2.48	0.48	H	(Bq/L)
Plutonium-239/240	2.4	2.45	A		-2.0	1.92 - 3.58	0.77	H	(Bq/L)
Strontium-90	7.3	8.98	A		-18.7	6.29 - 11.67	1.96	H	(Bq/L)
Technetium-99	66.7	66.5	A		0.3	46.55 - 86.45	12.6		(Bq/L)
Uranium-234/233	4.1	4.1	A		0.0	2.87 - 5.33	1.2	H	(Bq/L)
Uranium-235	0.22						0.08		(Bq/L)
Uranium-238	4.4	4.26	A		3.3	2.98 - 5.54	1.3	H	(Bq/L)
Zinc-65	355	330	A		7.6	231.00 - 429.00	63.0		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

OBGL01

O'Brien & Gere Laboratories, Inc.
PO Box 4873
Syracuse NY 13221-4873

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ODHL01

Ohio Department of Health Laboratory

1571 Perry St

Columbus

OH

43201

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	155.1	167	A		-7.1	116.90 - 217.10	0.8	L	(Bq/L)
Cesium-137	324.4	333	A		-2.6	233.10 - 432.90	1.1	L	(Bq/L)
Cobalt-57	271	272	A		-0.4	190.40 - 353.60	0.6	L	(Bq/L)
Cobalt-60	257.2	261	A		-1.5	182.70 - 339.30	1.0	L	(Bq/L)
Hydrogen-3	516	527	A		-2.1	368.90 - 685.10	17		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	410.3	418	A		-1.8	292.60 - 543.40	1.2	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	7.51	8.98	A		-16.4	6.29 - 11.67	0.92		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	337.2	330	A		2.2	231.00 - 429.00	2.0	L	(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

ORIS01

ORISE/ESSAP

PO Box 117

Sample ID: MAPEP-05-MaW14

Oak Ridge

TN

37831-0117

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.94	2.23	A		-13.0	1.56 - 2.90	0.12		(Bq/L)
Cesium-134	168.7	167	A		1.0	116.90 - 217.10	4.9	L	(Bq/L)
Cesium-137	340.4	333	A		2.2	233.10 - 432.90	7.3	L	(Bq/L)
Cobalt-57	288.3	272	A		6.0	190.40 - 353.60	5.1	L	(Bq/L)
Cobalt-60	268.1	261	A		2.7	182.70 - 339.30	6.2	L	(Bq/L)
Hydrogen-3	590	527	A		12.0	368.90 - 685.10	11	L	(Bq/L)
Iron-55	198.6	196	A		1.3	137.20 - 254.80	8.2		(Bq/L)
Manganese-54	400.1	418	A		-4.3	292.60 - 543.40	7.7	L	(Bq/L)
Nickel-63	110.4	100	A		10.4	70.00 - 130.00	3.4		(Bq/L)
Plutonium-238	1.80	1.67	A		7.8	1.34 - 2.48	0.10		(Bq/L)
Plutonium-239/240	2.51	2.45	A		2.4	1.92 - 3.58	0.12		(Bq/L)
Strontium-90	8.87	8.98	A		-1.2	6.29 - 11.67	0.28		(Bq/L)
Technetium-99	67.6	66.5	A		1.7	46.55 - 86.45	2.7		(Bq/L)
Uranium-234/233	4.18	4.1	A		2.0	2.87 - 5.33	0.19		(Bq/L)
Uranium-238	4.26	4.26	A		0.0	2.98 - 5.54	0.20		(Bq/L)
Zinc-65	328.9	330	A		-0.3	231.00 - 429.00	9.5	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

OTL101

Outreach Technologies, Inc.

311 N. Aspen

Broken Arrow

OK

74012-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	121	167	W		-27.5	116.90 - 217.10	3.49	L	(Bq/L)
Cesium-137	263	333	W		-21.0	233.10 - 432.90	43		(Bq/L)
Cobalt-57	262	272	A		-3.7	190.40 - 353.60	20		(Bq/L)
Cobalt-60	226	261	A		-13.4	182.70 - 339.30	7.38		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	340	418	A		-18.7	292.60 - 543.40	18.5		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	7.87	8.98	A		-12.4	6.29 - 11.67	0.492		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	3.45	4.1	A		-15.9	2.87 - 5.33	0.19		(Bq/L)
Uranium-238	3.18	4.26	W		-25.4	2.98 - 5.54	0.18		(Bq/L)
Zinc-65	296	330	A		-10.3	231.00 - 429.00	13.1		(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

PBRF01

NASA Plum Brook Reactor Facility Lab

6100 Columbus Ave

Sandusky

OH

44870

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	306.145	333	A		-8.1	233.10 - 432.90	8.43295	L	(Bq/L)
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	244.405	261	A		-6.4	182.70 - 339.30	5.44345	L	(Bq/L)
Hydrogen-3	0.00212	527	N		-100.0	368.90 - 685.10	6.73	H	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

QUAN01

STL St. Louis

13715 Rider Trail North

Sample ID: MAPEP-05-MaW14

Earth City MO 63045-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.77	1.77	A		0.0	1.24 - 2.30			(mg/L)
Arsenic	2.12	2.04	A		3.9	1.43 - 2.65			(mg/L)
Barium	16.9	16.34	A		3.4	11.44 - 21.24			(mg/L)
Beryllium	1.35	1.276	A		5.8	0.89 - 1.66			(mg/L)
Cadmium	<0.005		A						(mg/L)
Chromium	1.28	1.27	A		0.8	0.89 - 1.65			(mg/L)
Copper	3.82	3.80	A		0.5	2.66 - 4.94			(mg/L)
Lead	<0.005		A						(mg/L)
Mercury	0.006	0.00885	N		-32.2	0.01 - 0.01			(mg/L)
Nickel	1.46	1.457	A		0.2	1.02 - 1.89			(mg/L)
Selenium	0.460	0.443	A		3.8	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	4.87	4.97	A		-2.0	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.891	0.876	A		1.7	0.61 - 1.14			(mg/L)
Zinc	4.71	4.57	A		3.1	3.20 - 5.94			(mg/L)
Americium-241	1.98	2.23	A		-11.2	1.56 - 2.90	0.09		(Bq/L)
Cesium-134	156	167	A		-6.6	116.90 - 217.10	4	L	(Bq/L)
Cesium-137	327	333	A		-1.8	233.10 - 432.90	9	L	(Bq/L)
Cobalt-57	277	272	A		1.8	190.40 - 353.60	7	L	(Bq/L)
Cobalt-60	254	261	A		-2.7	182.70 - 339.30	7	L	(Bq/L)
Hydrogen-3	512	527	A		-2.8	368.90 - 685.10	27		(Bq/L)
Iron-55	210	196	A		7.1	137.20 - 254.80	11		(Bq/L)
Manganese-54	417	418	A		-0.2	292.60 - 543.40	11	L	(Bq/L)
Nickel-63	124	100	W		24.0	70.00 - 130.00	6		(Bq/L)
Plutonium-238	1.54	1.67	A		-7.8	1.34 - 2.48	0.09		(Bq/L)
Plutonium-239/240	2.18	2.45	A		-11.0	1.92 - 3.58	0.12		(Bq/L)
Strontium-90	5.73	8.98	N		-36.2	6.29 - 11.67	0.60		(Bq/L)
Technetium-99	58.2	66.5	A		-12.5	46.55 - 86.45	6.0		(Bq/L)
Uranium-234/233	4.22	4.1	A		2.9	2.87 - 5.33	0.21		(Bq/L)
Uranium-238	4.22	4.26	A		-0.9	2.98 - 5.54	0.21		(Bq/L)
Zinc-65	347	330	A		5.2	231.00 - 429.00	10	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

QUAN01

STL St. Louis
13715 Rider Trail North
Earth City MO 63045-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

QUAN02

STL Knoxville
5815 Middlebrook Pike

Sample ID: MAPEP-05-MaW14

Knoxville		TN	37921-	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.73	1.77	A		-2.3	1.24 - 2.30			(mg/L)
Arsenic	2.06	2.04	A		1.0	1.43 - 2.65			(mg/L)
Barium	16.3	16.34	A		-0.2	11.44 - 21.24			(mg/L)
Beryllium	1.32	1.276	A		3.4	0.89 - 1.66			(mg/L)
Chromium	1.31	1.27	A		3.2	0.89 - 1.65			(mg/L)
Copper	3.82	3.80	A		0.5	2.66 - 4.94			(mg/L)
Mercury	0.0082	0.00885	A		-7.3	0.01 - 0.01			(mg/L)
Nickel	1.50	1.457	A		3.0	1.02 - 1.89			(mg/L)
Selenium	0.447	0.443	A		0.9	0.31 - 0.58			(mg/L)
Silver	<0.01		A						(mg/L)
Thallium	5.03	4.97	A		1.2	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.903	0.876	A		3.1	0.61 - 1.14			(mg/L)
Zinc	4.66	4.57	A		2.0	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

QUAN03

SEVERN TRENT LABORATORIES RICHLAND
2800 GEORGE WASHINGTON WAY

Sample ID: MAPEP-05-MaW14

RICHLAND WA 99354-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.17	2.23	A		-2.7	1.56 - 2.90	0.225		(Bq/L)
Cesium-134	150	167	A		-10.2	116.90 - 217.10	9.88		(Bq/L)
Cesium-137	316	333	A		-5.1	233.10 - 432.90	18.8		(Bq/L)
Cobalt-57	295	272	A		8.5	190.40 - 353.60	18.9		(Bq/L)
Cobalt-60	263	261	A		0.8	182.70 - 339.30	17.4		(Bq/L)
Hydrogen-3	558	527	A		5.9	368.90 - 685.10	12.3	L	(Bq/L)
Iron-55	166	196	A		-15.3	137.20 - 254.80	10.4		(Bq/L)
Manganese-54	408	418	A		-2.4	292.60 - 543.40	27.4		(Bq/L)
Nickel-63	152	100	N		52.0	70.00 - 130.00	5.73		(Bq/L)
Plutonium-238	1.78	1.67	A		6.6	1.34 - 2.48	0.136		(Bq/L)
Plutonium-239/240	2.43	2.45	A		-0.8	1.92 - 3.58	0.182		(Bq/L)
Strontium-90	9.97	8.98	A		11.0	6.29 - 11.67	0.748		(Bq/L)
Technetium-99	55.9	66.5	A		-15.9	46.55 - 86.45	1.90		(Bq/L)
Uranium-234/233	3.93	4.1	A		-4.1	2.87 - 5.33	0.318		(Bq/L)
Uranium-238	4.08	4.26	A		-4.2	2.98 - 5.54	0.330		(Bq/L)
Zinc-65	348	330	A		5.5	231.00 - 429.00	22.0		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

RECC01

GEL Laboratories of Ohio, LLC

6954 Cornell Road

Cincinnati

OH

45242-3025

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.67	1.77	A		-5.7	1.24 - 2.30			(mg/L)
Arsenic	1.88	2.04	A		-7.8	1.43 - 2.65			(mg/L)
Barium	18.6	16.34	A		13.8	11.44 - 21.24			(mg/L)
Beryllium	1.26	1.276	A		-1.3	0.89 - 1.66			(mg/L)
Cadmium	<.00144		A						(mg/L)
Chromium	1.23	1.27	A		-3.2	0.89 - 1.65			(mg/L)
Copper	3.52	3.80	A		-7.4	2.66 - 4.94			(mg/L)
Lead	<.0162		A						(mg/L)
Mercury	.0082	0.00885	A		-7.3	0.01 - 0.01			(mg/L)
Nickel	1.39	1.457	A		-4.6	1.02 - 1.89			(mg/L)
Selenium	0.388	0.443	A		-12.4	0.31 - 0.58			(mg/L)
Silver	<.0094		A						(mg/L)
Thallium	5.26	4.97	A		5.8	3.48 - 6.46			(mg/L)
Uranium-Total	0.359	0.344	A		4.4	0.24 - 0.45			(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	.312	0.342				0.24 - 0.44			(mg/L)
Vanadium	0.829	0.876	A		-5.4	0.61 - 1.14			(mg/L)
Zinc	4.38	4.57	A		-4.2	3.20 - 5.94			(mg/L)
Americium-241	1.99	2.23	A		-10.8	1.56 - 2.90	.0766		(Bq/L)
Cesium-134	135	167	A		-19.2	116.90 - 217.10	4.12		(Bq/L)
Cesium-137	334	333	A		0.3	233.10 - 432.90	22.4		(Bq/L)
Cobalt-57	276	272	A		1.5	190.40 - 353.60	11.6		(Bq/L)
Cobalt-60	263	261	A		0.8	182.70 - 339.30	10.7		(Bq/L)
Hydrogen-3	533	527	A		1.1	368.90 - 685.10	22.3		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	432	418	A		3.3	292.60 - 543.40	28.6		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.85	1.67	A		10.8	1.34 - 2.48	.122		(Bq/L)
Plutonium-239/240	2.48	2.45	A		1.2	1.92 - 3.58	1.6	H	(Bq/L)
Strontium-90	8.88	8.98	A		-1.1	6.29 - 11.67	.408		(Bq/L)
Technetium-99	61.4	66.5	A		-7.7	46.55 - 86.45	.963	L	(Bq/L)
Uranium-234/233	4.18	4.1	A		2.0	2.87 - 5.33	.308		(Bq/L)
Uranium-238	4.18	4.26	A		-1.9	2.98 - 5.54	.313		(Bq/L)
Zinc-65	369	330	A		11.8	231.00 - 429.00	22.7		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

RECC01

GEL Laboratories of Ohio, LLC

6954 Cornell Road

Cincinnati

OH

45242-3025

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable
W = Result acceptable with warning
N = Result not acceptable
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Bias <= 20%
20% < Bias <= 30%
Bias > 30%

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

RMCL99

Royal Scientific Society - Radiation Measurements Lab

Ahmad Al-Tarawneh Str.

Al-Jubaiha Amman 11941

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	173.0	167	A		3.6	116.90 - 217.10	5.3		(Bq/L)
Cesium-137	327.4	333	A		-1.7	233.10 - 432.90	9.1	L	(Bq/L)
Cobalt-57	273.8	272	A		0.7	190.40 - 353.60	8.1	L	(Bq/L)
Cobalt-60	266.2	261	A		2.0	182.70 - 339.30	12.6		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	413.8	418	A		-1.0	292.60 - 543.40	11.3	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	339.3	330	A		2.8	231.00 - 429.00	9.4	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

RPSC01

Radiation Protection Service

Ontario Ministry of Labour

Sample ID: MAPEP-05-MaW14

Weston Ontario M9P 3T1

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	163	167	A		-2.4	116.90 - 217.10	10		(Bq/L)
Cesium-137	318	333	A		-4.5	233.10 - 432.90	19		(Bq/L)
Cobalt-57	269	272	A		-1.1	190.40 - 353.60	16		(Bq/L)
Cobalt-60	267	261	A		2.3	182.70 - 339.30	16		(Bq/L)
Hydrogen-3	555	527	A		5.3	368.90 - 685.10	56		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	402	418	A		-3.8	292.60 - 543.40	24		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	9.2	8.98	A		2.5	6.29 - 11.67	0.9		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	327	330	A		-0.9	231.00 - 429.00	20		(Bq/L)

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

RSAL01

RSA Laboratories, Inc.

PO Box 61

Hebron

CT

06248

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.88	2.23	A		-15.7	1.56 - 2.90	.23		(Bq/L)
Cesium-134	158.94	167	A		-4.8	116.90 - 217.10	4.10	L	(Bq/L)
Cesium-137	348.42	333	A		4.6	233.10 - 432.90	8.51	L	(Bq/L)
Cobalt-57	297.20	272	A		9.3	190.40 - 353.60	7.71	L	(Bq/L)
Cobalt-60	272.11	261	A		4.3	182.70 - 339.30	6.65	L	(Bq/L)
Hydrogen-3	508.4	527	A		-3.5	368.90 - 685.10	26.21		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	441.54	418	A		5.6	292.60 - 543.40	10.73	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	7.76	8.98	A		-13.6	6.29 - 11.67	.31		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.29	4.1	A		4.6	2.87 - 5.33	.46		(Bq/L)
Uranium-238	4.89	4.26	A		14.8	2.98 - 5.54	.52		(Bq/L)
Zinc-65	365.37	330	A		10.7	231.00 - 429.00	10.06	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

RSIR99

Instituto de Radioprotecao e Dosimetria
Avenida Salvador Allende S/no.

Sample ID: MAPEP-05-MaW14

RJ Rio de Janeiro 22780-160

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.746	1.77	A		-1.4	1.24 - 2.30	0.020	L	(mg/L)
Arsenic	2.005	2.04	A		-1.7	1.43 - 2.65	0.013	L	(mg/L)
Barium	16.766	16.34	A		2.6	11.44 - 21.24	0.075	L	(mg/L)
Beryllium	1.248	1.276	A		-2.2	0.89 - 1.66	0.013	L	(mg/L)
Chromium	1.303	1.27	A		2.6	0.89 - 1.65	0.009	L	(mg/L)
Copper	3.857	3.80	A		1.5	2.66 - 4.94	0.048	L	(mg/L)
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	1.412	1.457	A		-3.1	1.02 - 1.89	0.016	L	(mg/L)
Selenium	0.349	0.443	W		-21.2	0.31 - 0.58	0.007	L	(mg/L)
Thallium	4.845	4.97	A		-2.5	3.48 - 6.46	0.037	L	(mg/L)
Uranium-Total	0.333	0.344	A		-3.2	0.24 - 0.45	0.004	L	(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.893	0.876	A		1.9	0.61 - 1.14	0.010	L	(mg/L)
Zinc	4.389	4.57	A		-4.0	3.20 - 5.94	0.052	L	(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	179.967	167	A		7.8	116.90 - 217.10	5.933		(Bq/L)
Cesium-137	369.70	333	A		11.0	233.10 - 432.90	13.333		(Bq/L)
Cobalt-57	298.667	272	A		9.8	190.40 - 353.60	11.233		(Bq/L)
Cobalt-60	299.367	261	A		14.7	182.70 - 339.30	10.133		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	475.40	418	A		13.7	292.60 - 543.40	16.833		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	397.200	330	W		20.4	231.00 - 429.00	14.733		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SAVA01

WSRC/SAVANNAH RIVER NATIONAL LABORATORY/

773-A, room B125

Sample ID: MAPEP-05-MaW14

AIKEN SC 29802-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.9	1.77	A		7.3	1.24 - 2.30	0.19		(mg/L)
Arsenic	2.03	2.04	A		-0.5	1.43 - 2.65	0.406		(mg/L)
Barium	16.8	16.34	A		2.8	11.44 - 21.24	1.68		(mg/L)
Beryllium	1.20	1.276	A		-6.0	0.89 - 1.66	0.12		(mg/L)
Cadmium	<0.017		A						(mg/L)
Chromium	1.2	1.27	A		-5.5	0.89 - 1.65	0.12		(mg/L)
Copper	3.6	3.80	A		-5.3	2.66 - 4.94	0.36		(mg/L)
Lead	<0.286		A	19					(mg/L)
Mercury	<0.0100	0.00885	A	19		0.01 - 0.01			(mg/L)
Nickel	1.9	1.457	N		30.4	1.02 - 1.89	0.19		(mg/L)
Selenium	0.334	0.443	W		-24.6	0.31 - 0.58	0.0668		(mg/L)
Silver	<0.076		A						(mg/L)
Thallium	4.9	4.97	A		-1.4	3.48 - 6.46	0.49		(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.86	0.876	A		-1.8	0.61 - 1.14	0.09		(mg/L)
Zinc	4.3	4.57	A		-5.9	3.20 - 5.94	0.43		(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

SAVA01

WSRC/SAVANNAH RIVER NATIONAL LABORATORY/

773-A, room B125

AIKEN

SC

29802-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SCAL01

Sanford Cohen and Associates, Inc.

1000 Monticello Court

Montgomery

AL

36117-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.24	2.23	A		0.4	1.56 - 2.90	0.257		(Bq/L)
Cesium-134	167	167	A		0.0	116.90 - 217.10	11.3		(Bq/L)
Cesium-137	331	333	A		-0.6	233.10 - 432.90	22.8		(Bq/L)
Cobalt-57	278	272	A		2.2	190.40 - 353.60	16.4		(Bq/L)
Cobalt-60	254	261	A		-2.7	182.70 - 339.30	15.6		(Bq/L)
Hydrogen-3	468	527	A		-11.2	368.90 - 685.10	47.5		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	422	418	A		1.0	292.60 - 543.40	26.5		(Bq/L)
Nickel-63	120	100	A		20.0	70.00 - 130.00	12.2		(Bq/L)
Plutonium-238	1.74	1.67	A		4.2	1.34 - 2.48	0.205		(Bq/L)
Plutonium-239/240	2.55	2.45	A		4.1	1.92 - 3.58	0.296		(Bq/L)
Strontium-90	7.84	8.98	A		-12.7	6.29 - 11.67	0.469		(Bq/L)
Technetium-99	63.0	66.5	A		-5.3	46.55 - 86.45	6.37		(Bq/L)
Uranium-234/233	4.50	4.1	A		9.8	2.87 - 5.33	0.510		(Bq/L)
Uranium-238	4.62	4.26	A		8.5	2.98 - 5.54	0.525		(Bq/L)
Zinc-65	344	330	A		4.2	231.00 - 429.00	20.1		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SEML01

SRS Environmental Monitoring Laboratory

Bldg 735-B

Sample ID: MAPEP-05-MaW14

Aiken

SC

29808

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.76	1.77	A		-0.6	1.24 - 2.30	0.09		(mg/L)
Arsenic	2.02	2.04	A		-1.0	1.43 - 2.65	0.13		(mg/L)
Barium	16.8	16.34	A		2.8	11.44 - 21.24	0.75		(mg/L)
Beryllium	1.26	1.276	A		-1.3	0.89 - 1.66	0.05		(mg/L)
Cadmium	<0.01		A				0.08		(mg/L)
Chromium	1.29	1.27	A		1.6	0.89 - 1.65	0.03	L	(mg/L)
Copper	3.76	3.80	A		-1.1	2.66 - 4.94	0.12		(mg/L)
Lead	<0.02		A				0.18		(mg/L)
Mercury	0.010	0.00885	A		13.0	0.01 - 0.01	0.0003		(mg/L)
Nickel	1.5	1.457	A		3.0	1.02 - 1.89	0.07		(mg/L)
Selenium	0.396	0.443	A		-10.6	0.31 - 0.58	0.12	H	(mg/L)
Silver	<0.01		A				0.01		(mg/L)
Thallium	4.93	4.97	A		-0.8	3.48 - 6.46	0.25		(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.90	0.876	A		2.7	0.61 - 1.14	0.19	H	(mg/L)
Zinc	4.42	4.57	A		-3.3	3.20 - 5.94	0.16		(mg/L)
Americium-241	2.19	2.23	A		-1.8	1.56 - 2.90	0.15		(Bq/L)
Cesium-134	147	167	A		-12.0	116.90 - 217.10	2.57	L	(Bq/L)
Cesium-137	326	333	A		-2.1	233.10 - 432.90	10.3		(Bq/L)
Cobalt-57	277	272	A		1.8	190.40 - 353.60	6.4	L	(Bq/L)
Cobalt-60	259	261	A		-0.8	182.70 - 339.30	5	L	(Bq/L)
Hydrogen-3	492	527	A		-6.6	368.90 - 685.10	23		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	422	418	A		1.0	292.60 - 543.40	11.9	L	(Bq/L)
Nickel-63	120	100	A		20.0	70.00 - 130.00	6		(Bq/L)
Plutonium-238	1.71	1.67	A		2.4	1.34 - 2.48	0.12		(Bq/L)
Plutonium-239/240	2.37	2.45	A		-3.3	1.92 - 3.58	0.15		(Bq/L)
Strontium-90	7.88	8.98	A		-12.2	6.29 - 11.67	0.5		(Bq/L)
Technetium-99	60.6	66.5	A		-8.9	46.55 - 86.45	3		(Bq/L)
Uranium-234/233	4.30	4.1	A		4.9	2.87 - 5.33	0.30		(Bq/L)
Uranium-238	4.50	4.26	A		5.6	2.98 - 5.54	0.32		(Bq/L)
Zinc-65	359	330	A		8.8	231.00 - 429.00	10.3	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

SEML01

SRS Environmental Monitoring Laboratory
Bldg 735-B
Aiken SC 29808

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SIHA01

Sandia National Lab - Industrial Hygiene Analytical Chemistry
PO Box 5800 MS0305

Sample ID: MAPEP-05-MaW14

Albuquerque		NM	87185-0305	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.9	1.77	A		7.3	1.24 - 2.30	0.14		(mg/L)
Arsenic	2.0	2.04	A		-2.0	1.43 - 2.65	0.15		(mg/L)
Barium	17	16.34	A		4.0	11.44 - 21.24	1.3		(mg/L)
Beryllium	1.4	1.276	A		9.7	0.89 - 1.66	0.11		(mg/L)
Cadmium	<0.010		A						(mg/L)
Chromium	1.5	1.27	A		18.1	0.89 - 1.65	0.11		(mg/L)
Copper	3.9	3.80	A		2.6	2.66 - 4.94	0.29		(mg/L)
Lead	<0.010		A						(mg/L)
Mercury	0.0073	0.00885	A		-17.5	0.01 - 0.01	0.00055		(mg/L)
Nickel	1.4	1.457	A		-3.9	1.02 - 1.89	0.11		(mg/L)
Selenium	0.45	0.443	A		1.6	0.31 - 0.58	0.034		(mg/L)
Silver	<0.010		A						(mg/L)
Thallium	5.0	4.97	A		0.6	3.48 - 6.46	0.38		(mg/L)
Uranium-Total	0.35	0.344	A		1.7	0.24 - 0.45	0.026		(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	1.0	0.876	A		14.2	0.61 - 1.14	0.075		(mg/L)
Zinc	4.6	4.57	A		0.7	3.20 - 5.94	0.34		(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

SIHA01

Sandia National Lab - Industrial Hygiene Analytical Che
PO Box 5800 MS0305
Albuquerque NM 87185-0305

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SLAC01

SLAC

2575 Sand Hill Road

Menlo Park

CA

94025

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	295	333	A		-11.4	233.10 - 432.90	29		(Bq/L)
Cobalt-57	260	272	A		-4.4	190.40 - 353.60	26		(Bq/L)
Cobalt-60	278	261	A		6.5	182.70 - 339.30	27		(Bq/L)
Hydrogen-3	625	527	A		18.6	368.90 - 685.10	62		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	364	418	A		-12.9	292.60 - 543.40	36		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	323	330	A		-2.1	231.00 - 429.00	32		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

Bias > 30%

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SLDL01

Scientific Laboratory Division

PO Box 4700

Albuquerque

NM

87196-4700

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.13	2.23	A		-4.5	1.56 - 2.90	0.14		(Bq/L)
Cesium-134	155.	167	A		-7.2	116.90 - 217.10	20.		(Bq/L)
Cesium-137	331.	333	A		-0.6	233.10 - 432.90	35.		(Bq/L)
Cobalt-57	287.	272	A		5.5	190.40 - 353.60	32.		(Bq/L)
Cobalt-60	263.	261	A		0.8	182.70 - 339.30	30.		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	425.	418	A		1.7	292.60 - 543.40	50.		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.61	1.67	A		-3.6	1.34 - 2.48	0.10		(Bq/L)
Plutonium-239/240	2.24	2.45	A		-8.6	1.92 - 3.58	0.14		(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.07	4.1	A		-0.7	2.87 - 5.33	0.24		(Bq/L)
Uranium-238	4.22	4.26	A		-0.9	2.98 - 5.54	0.24		(Bq/L)
Zinc-65	356.	330	A		7.9	231.00 - 429.00	40.		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SNRC99

Soreq NRC

Radioactivity Measurement Section

Yavne

81800

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	163.5	167	A		-2.1	116.90 - 217.10	2.57	L	(Bq/L)
Cesium-137	320.55	333	A		-3.7	233.10 - 432.90	3.10	L	(Bq/L)
Cobalt-57	270.91	272	A		-0.4	190.40 - 353.60	2.72	L	(Bq/L)
Cobalt-60	275.10	261	A		5.4	182.70 - 339.30	4.14	L	(Bq/L)
Hydrogen-3	417.4	527	W		-20.8	368.90 - 685.10	18.8		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	407.11	418	A		-2.6	292.60 - 543.40	3.66	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	342.00	330	A		3.6	231.00 - 429.00	3.46	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SOUT01

Southwest Research Institute

6220 Culebra Rd.

Sample ID: MAPEP-05-MaW14

San Antonio

TX

78228-0510

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.74	1.77	A		-1.7	1.24 - 2.30	.0903		(mg/L)
Arsenic	1.99	2.04	A		-2.5	1.43 - 2.65	0.103		(mg/L)
Barium	16.5	16.34	A		1.0	11.44 - 21.24	.858		(mg/L)
Beryllium	1.23	1.276	A		-3.6	0.89 - 1.66	0.0637		(mg/L)
Cadmium	<0.005		A				0.00026		(mg/L)
Chromium	1.24	1.27	A		-2.4	0.89 - 1.65	.0644		(mg/L)
Copper	3.79	3.80	A		-0.3	2.66 - 4.94	.197		(mg/L)
Lead	<0.005		A				.00026		(mg/L)
Mercury	.00706	0.00885	W		-20.2	0.01 - 0.01	.00037		(mg/L)
Nickel	1.37	1.457	A		-6.0	1.02 - 1.89	0.0714		(mg/L)
Selenium	.385	0.443	A		-13.1	0.31 - 0.58	.0200		(mg/L)
Silver	<0.005		A				0.00026		(mg/L)
Thallium	4.75	4.97	A		-4.4	3.48 - 6.46	.247		(mg/L)
Uranium-Total	.352	0.344	A		2.3	0.24 - 0.45	.0183		(mg/L)
Uranium-235	.00287	0.00248	A		15.7	0.00 - 0.00	.000149		(mg/L)
Uranium-238	.352	0.342				0.24 - 0.44	.0183		(mg/L)
Vanadium	.869	0.876	A		-0.8	0.61 - 1.14	.0452		(mg/L)
Zinc	4.28	4.57	A		-6.3	3.20 - 5.94	.223		(mg/L)
Americium-241	2.15	2.23	A		-3.6	1.56 - 2.90	0.149		(Bq/L)
Cesium-134	145.1	167	A		-13.1	116.90 - 217.10	7.526		(Bq/L)
Cesium-137	318.7	333	A		-4.3	233.10 - 432.90	34.99		(Bq/L)
Cobalt-57	278.7	272	A		2.5	190.40 - 353.60	24.25		(Bq/L)
Cobalt-60	252.8	261	A		-3.1	182.70 - 339.30	13.29		(Bq/L)
Hydrogen-3	412	527	W		-21.8	368.90 - 685.10	29.4		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	411.1	418	A		-1.7	292.60 - 543.40	38.74		(Bq/L)
Nickel-63	95.6	100	A		-4.4	70.00 - 130.00	7.0		(Bq/L)
Plutonium-238	1.71	1.67	A		2.4	1.34 - 2.48	0.130		(Bq/L)
Plutonium-239/240	2.54	2.45	A		3.7	1.92 - 3.58	0.172		(Bq/L)
Strontium-90	9.5	8.98	A		5.8	6.29 - 11.67	1.09		(Bq/L)
Technetium-99	77.2	66.5	A		16.1	46.55 - 86.45	4.32		(Bq/L)
Uranium-234/233	3.95	4.1	A		-3.7	2.87 - 5.33	0.236		(Bq/L)
Uranium-238	4.26	4.26	A		0.0	2.98 - 5.54	0.251		(Bq/L)
Zinc-65	344.4	330	A		4.4	231.00 - 429.00	25.41		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

SOUT01

Southwest Research Institute
6220 Culebra Rd.
San Antonio TX 78228-0510

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

SRPD01

Sandia National Laboratories, Radiation Protection Sam
PO Box 5800, MS0305

Sample ID: MAPEP-05-MaW14

Albuquerque		NM	87185-0305	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	0.3318	0.344	A		-3.5	0.24 - 0.45	0.0507		(mg/L)
Uranium-235	0.00242	0.00248	A		-2.4	0.00 - 0.00	0.0005		(mg/L)
Uranium-238	0.3293	0.342				0.24 - 0.44	0.0506		(mg/L)
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	150	167	A		-10.2	116.90 - 217.10	19		(Bq/L)
Cesium-137	316	333	A		-5.1	233.10 - 432.90	41		(Bq/L)
Cobalt-57	274	272	A		0.7	190.40 - 353.60	36		(Bq/L)
Cobalt-60	253	261	A		-3.1	182.70 - 339.30	32		(Bq/L)
Hydrogen-3	433	527	A		-17.8	368.90 - 685.10	47		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	421	418	A		0.7	292.60 - 543.40	54		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	346	330	A		4.8	231.00 - 429.00	44		(Bq/L)

Flags: A = Result acceptable Bias <= 20%
 W = Result acceptable with warning 20% < Bias <= 30%
 N = Result not acceptable Bias > 30%
 L = Uncertainty potentially too low
 H = Uncertainty potentially too high
 Q = Participant should evaluate reported value
 QL = Quantitation Limit
 RW = Report Warning
 NR = Not Reported

Flag Text: 1 - False Positive
 2 - False Negative
 4 - Sensitivity Evaluation
 5 - Total Metal
 6 - Not Evaluated
 7 - DL > CLP Limit
 9 - Check QL
 10 - Check Isomer
 11 - False Positive Test, Value Not Reported
 14 - Solubility Issue
 15 - Refractory
 16 - Reported zero uncertainty
 17 - NOT DETECTED, reported a statistically zero result.
 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TDHL01

Texas Department of State Health Services Laboratory

1100 W 49th Street

Austin

TX

78756

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.28	2.23	A		2.2	1.56 - 2.90	0.05	L	(Bq/L)
Cesium-134	162	167	A		-3.0	116.90 - 217.10	1	L	(Bq/L)
Cesium-137	335	333	A		0.6	233.10 - 432.90	6	L	(Bq/L)
Cobalt-57	285	272	A		4.8	190.40 - 353.60	4	L	(Bq/L)
Cobalt-60	269	261	A		3.1	182.70 - 339.30	2	L	(Bq/L)
Hydrogen-3	574	527	A		8.9	368.90 - 685.10	29		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	437	418	A		4.5	292.60 - 543.40	6	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.67	1.67	A		0.0	1.34 - 2.48	0.05	L	(Bq/L)
Plutonium-239/240	2.33	2.45	A		-4.9	1.92 - 3.58	0.07		(Bq/L)
Strontium-90	8.50	8.98	A		-5.3	6.29 - 11.67	0.39		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.03	4.1	A		-1.7	2.87 - 5.33	0.11	L	(Bq/L)
Uranium-238	4.22	4.26	A		-0.9	2.98 - 5.54	0.11	L	(Bq/L)
Zinc-65	367	330	A		11.2	231.00 - 429.00	4	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TELE01

TELEDYNE BROWN ENGINEERING - ENVIRONMENT

Sample ID: MAPEP-05-MaW14

2508 Quality Lane

Knoxville

TN

37931-6819

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.24E+00	2.23	A		0.4	1.56 - 2.90	2.43E-01		(Bq/L)
Cesium-134	1.42E+02	167	A		-15.0	116.90 - 217.10	2.18E+00	L	(Bq/L)
Cesium-137	3.02E+02	333	A		-9.3	233.10 - 432.90	4.12E+00	L	(Bq/L)
Cobalt-57	2.51E+02	272	A		-7.7	190.40 - 353.60	2.72E+00	L	(Bq/L)
Cobalt-60	2.43E+02	261	A		-6.9	182.70 - 339.30	2.71E+00	L	(Bq/L)
Hydrogen-3	5.47E+02	527	A		3.8	368.90 - 685.10	1.22E+01	L	(Bq/L)
Iron-55	1.94E+02	196	A		-1.0	137.20 - 254.80	2.61E+01		(Bq/L)
Manganese-54	3.83E+02	418	A		-8.4	292.60 - 543.40	4.73E+00	L	(Bq/L)
Nickel-63	1.11E+02	100	A		11.0	70.00 - 130.00	2.69E+00	L	(Bq/L)
Plutonium-238	1.74E+00	1.67	A		4.2	1.34 - 2.48	2.61E-01		(Bq/L)
Plutonium-239/240	2.46E+00	2.45	A		0.4	1.92 - 3.58	3.44E-01		(Bq/L)
Strontium-90	8.75E+00	8.98	A		-2.6	6.29 - 11.67	2.14E-01	L	(Bq/L)
Technetium-99	6.36E+01	66.5	A		-4.4	46.55 - 86.45	1.45E+00	L	(Bq/L)
Uranium-234/233	4.23E+00	4.1	A		3.2	2.87 - 5.33	3.67E-01		(Bq/L)
Uranium-238	4.22E+00	4.26	A		-0.9	2.98 - 5.54	3.67E-01		(Bq/L)
Zinc-65	3.24E+02	330	A		-1.8	231.00 - 429.00	7.57E+00	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TELE02

Environmental, Inc., Midwest Lab
700 Landwehr Road

Sample ID: MAPEP-05-MaW14

Northbrook IL 60062-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.21	2.23	A		-0.9	1.56 - 2.90	0.13		(Bq/L)
Cesium-134	171.8	167	A		2.9	116.90 - 217.10	4.0	L	(Bq/L)
Cesium-137	342.1	333	A		2.7	233.10 - 432.90	2.2	L	(Bq/L)
Cobalt-57	293.2	272	A		7.8	190.40 - 353.60	7.3	L	(Bq/L)
Cobalt-60	275.7	261	A		5.6	182.70 - 339.30	1.3	L	(Bq/L)
Hydrogen-3	514.2	527	A		-2.4	368.90 - 685.10	12.6	L	(Bq/L)
Iron-55	167.8	196	A		-14.4	137.20 - 254.80	9.3		(Bq/L)
Manganese-54	437.0	418	A		4.5	292.60 - 543.40	2.5	L	(Bq/L)
Nickel-63	105.1	100	A		5.1	70.00 - 130.00	3.6		(Bq/L)
Plutonium-238	1.64	1.67	A		-1.8	1.34 - 2.48	0.12		(Bq/L)
Plutonium-239/240	2.32	2.45	A		-5.3	1.92 - 3.58	0.13		(Bq/L)
Strontium-90	9.2	8.98	A		2.5	6.29 - 11.67	1.3		(Bq/L)
Technetium-99	72.3	66.5	A		8.7	46.55 - 86.45	2.3		(Bq/L)
Uranium-234/233	4.11	4.1	A		0.2	2.87 - 5.33	0.18		(Bq/L)
Uranium-238	4.14	4.26	A		-2.8	2.98 - 5.54	0.18		(Bq/L)
Zinc-65	364.6	330	A		10.5	231.00 - 429.00	4.9	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TMAE01

Eberline Services, Inc.

7021 Pan American Freeway N.E.

Albuquerque

NM

87109-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.97	2.23	A		-11.7	1.56 - 2.90	0.294		(Bq/L)
Cesium-134	150	167	A		-10.2	116.90 - 217.10	21.0		(Bq/L)
Cesium-137	324	333	A		-2.7	233.10 - 432.90	48.2		(Bq/L)
Cobalt-57	282	272	A		3.7	190.40 - 353.60	40.0		(Bq/L)
Cobalt-60	260	261	A		-0.4	182.70 - 339.30	35.6		(Bq/L)
Hydrogen-3	526	527	A		-0.2	368.90 - 685.10	44.0		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	415	418	A		-0.7	292.60 - 543.40	59.8		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.78	1.67	A		6.6	1.34 - 2.48	0.302		(Bq/L)
Plutonium-239/240	2.41	2.45	A		-1.6	1.92 - 3.58	0.383		(Bq/L)
Strontium-90	11.1	8.98	W		23.6	6.29 - 11.67	1.61		(Bq/L)
Technetium-99	72.8	66.5	A		9.5	46.55 - 86.45	5.75		(Bq/L)
Uranium-234/233	4.51	4.1	A		10.0	2.87 - 5.33	0.524		(Bq/L)
Uranium-238	4.58	4.26	A		7.5	2.98 - 5.54	0.530		(Bq/L)
Zinc-65	344	330	A		4.2	231.00 - 429.00	50.9		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TMA001

EBERLINE SERVICES OAK RIDGE LABORATORY
601 SCARBORO RD

Sample ID: MAPEP-05-MaW14

OAK RIDGE TN 37830-

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.11	2.23	A		-5.4	1.56 - 2.90	0.190		(Bq/L)
Cesium-134	143.9	167	A		-13.8	116.90 - 217.10	4.50		(Bq/L)
Cesium-137	322.5	333	A		-3.2	233.10 - 432.90	16.8		(Bq/L)
Cobalt-57	272.4	272	A		0.1	190.40 - 353.60	8.33		(Bq/L)
Cobalt-60	259.7	261	A		-0.5	182.70 - 339.30	10.13		(Bq/L)
Hydrogen-3	497.3	527	A		-5.6	368.90 - 685.10	5.96	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	420.8	418	A		0.7	292.60 - 543.40	28.7		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.882	1.67	A		12.7	1.34 - 2.48	0.148		(Bq/L)
Plutonium-239/240	2.777	2.45	A		13.3	1.92 - 3.58	0.208		(Bq/L)
Strontium-90	10.187	8.98	A		13.4	6.29 - 11.67	0.167	L	(Bq/L)
Technetium-99	57.56	66.5	A		-13.4	46.55 - 86.45	0.47	L	(Bq/L)
Uranium-234/233	4.015	4.1	A		-2.1	2.87 - 5.33	0.279		(Bq/L)
Uranium-238	4.368	4.26	A		2.5	2.98 - 5.54	0.302		(Bq/L)
Zinc-65	354.4	330	A		7.4	231.00 - 429.00	35.5		(Bq/L)

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TMAR01

Eberline Services

2030 Wright Ave

Richmond

CA

94804-0040

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.13	2.23	A		-4.5	1.56 - 2.90	0.068		(Bq/L)
Cesium-134	172.0	167	A		3.0	116.90 - 217.10	13.5		(Bq/L)
Cesium-137	332.1	333	A		-0.3	233.10 - 432.90	25.0		(Bq/L)
Cobalt-57	276.1	272	A		1.5	190.40 - 353.60	20.7		(Bq/L)
Cobalt-60	243.6	261	A		-6.7	182.70 - 339.30	18.3		(Bq/L)
Hydrogen-3	539.9	527	A		2.4	368.90 - 685.10	31.2		(Bq/L)
Iron-55	202.5	196	A		3.3	137.20 - 254.80	7.12		(Bq/L)
Manganese-54	427.8	418	A		2.3	292.60 - 543.40	32.2		(Bq/L)
Nickel-63	93.5	100	A		-6.5	70.00 - 130.00	4.91		(Bq/L)
Plutonium-238	1.70	1.67	A		1.8	1.34 - 2.48	0.059		(Bq/L)
Plutonium-239/240	2.33	2.45	A		-4.9	1.92 - 3.58	0.077		(Bq/L)
Strontium-90	9.12	8.98	A		1.6	6.29 - 11.67	0.488		(Bq/L)
Technetium-99	66.5	66.5	A		0.0	46.55 - 86.45	3.43		(Bq/L)
Uranium-234/233	4.14	4.1	A		1.0	2.87 - 5.33	0.128		(Bq/L)
Uranium-238	4.2	4.26	A		-1.4	2.98 - 5.54	0.129		(Bq/L)
Zinc-65	355.5	330	A		7.7	231.00 - 429.00	26.9		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

TNUT01

FUSRAP

8945 LATTY AVE

BERKELEY

MO

63134-

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.283	2.23	A		2.4	1.56 - 2.90	0.327		(Bq/L)
Cesium-134	145.75	167	A		-12.7	116.90 - 217.10	1.062	L	(Bq/L)
Cesium-137	329.525	333	A		-1.0	233.10 - 432.90	3.571	L	(Bq/L)
Cobalt-57	277.15	272	A		1.9	190.40 - 353.60	2.312	L	(Bq/L)
Cobalt-60	259.125	261	A		-0.7	182.70 - 339.30	1.796	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	422.95	418	A		1.2	292.60 - 543.40	4.097	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.353	4.1	A		6.2	2.87 - 5.33	0.439		(Bq/L)
Uranium-238	4.359	4.26	A		2.3	2.98 - 5.54	0.439		(Bq/L)
Zinc-65	357.625	330	A		8.4	231.00 - 429.00	3.551	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

UTSG01

UniTech Services Group

295 Parker St

Springfield

MA

01151

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	138.4	167	A		-17.1	116.90 - 217.10	12.03		(Bq/L)
Cesium-137	326.2	333	A		-2.0	233.10 - 432.90	20.06		(Bq/L)
Cobalt-57	229.8	272	A		-15.5	190.40 - 353.60	12.93		(Bq/L)
Cobalt-60	249.8	261	A		-4.3	182.70 - 339.30	16.78		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	362.5	418	A		-13.3	292.60 - 543.40	21.67		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	286.9	330	A		-13.1	231.00 - 429.00	19.76		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text: 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WEST01

Lionville Laboratory Incorporated

208 Welsh Pool Road

Sample ID: MAPEP-05-MaW14

	Lionville	PA	19341-1313	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.8	1.77	A		1.7	1.24 - 2.30			(mg/L)
Arsenic	2.1	2.04	A		2.9	1.43 - 2.65			(mg/L)
Barium	16.4	16.34	A		0.4	11.44 - 21.24			(mg/L)
Beryllium	1.3	1.276	A		1.9	0.89 - 1.66			(mg/L)
Cadmium	<0.00030		A						(mg/L)
Chromium	1.3	1.27	A		2.4	0.89 - 1.65			(mg/L)
Copper	3.8	3.80	A		0.0	2.66 - 4.94			(mg/L)
Lead	<0.0025		A						(mg/L)
Mercury	0.0080	0.00885	A		-9.6	0.01 - 0.01			(mg/L)
Nickel	1.5	1.457	A		3.0	1.02 - 1.89			(mg/L)
Selenium	0.45	0.443	A		1.6	0.31 - 0.58			(mg/L)
Silver	0.0023		A						(mg/L)
Thallium	5.1	4.97	A		2.6	3.48 - 6.46			(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.89	0.876	A		1.6	0.61 - 1.14			(mg/L)
Zinc	4.5	4.57	A		-1.5	3.20 - 5.94			(mg/L)
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

Mixed Analyte Performance Evaluation Program

Laboratory Results

WEST01

Lionville Laboratory Incorporated
208 Welsh Pool Road
Lionville PA 19341-1313

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WEST03

Waste Sampling and Characterization Facility
PO Box 1000, S3-30

Sample ID: MAPEP-05-MaW14

Richland		WA	99352	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	1.90	1.77	A		7.3	1.24 - 2.30	0.2		(mg/L)
Arsenic	1.99	2.04	A		-2.5	1.43 - 2.65	0.13		(mg/L)
Barium	17.1	16.34	A		4.7	11.44 - 21.24	0.58		(mg/L)
Beryllium	1.24	1.276	A		-2.8	0.89 - 1.66	0.08		(mg/L)
Cadmium	<0.0001		A						(mg/L)
Chromium	1.32	1.27	A		3.9	0.89 - 1.65	0.06		(mg/L)
Copper	3.91	3.80	A		2.9	2.66 - 4.94	0.19		(mg/L)
Lead	<0.0002		A						(mg/L)
Mercury	0.008	0.00885	A		-9.6	0.01 - 0.01	0.0007		(mg/L)
Nickel	1.45	1.457	A		-0.5	1.02 - 1.89	0.06		(mg/L)
Selenium	0.43	0.443	A		-2.9	0.31 - 0.58	0.05		(mg/L)
Silver	0.002		A				0.0001		(mg/L)
Thallium	4.81	4.97	A		-3.2	3.48 - 6.46	0.18		(mg/L)
Uranium-Total	0.35	0.344	A		1.7	0.24 - 0.45	0.01	L	(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.83	0.876	A		-5.3	0.61 - 1.14	0.03		(mg/L)
Zinc	4.70	4.57	A		2.8	3.20 - 5.94	0.45		(mg/L)
Americium-241	2.12	2.23	A		-4.9	1.56 - 2.90	0.232		(Bq/L)
Cesium-134	140	167	A		-16.2	116.90 - 217.10	4.96		(Bq/L)
Cesium-137	333	333	A		0.0	233.10 - 432.90	25.3		(Bq/L)
Cobalt-57	276	272	A		1.5	190.40 - 353.60	13.2		(Bq/L)
Cobalt-60	266	261	A		1.9	182.70 - 339.30	12.3		(Bq/L)
Hydrogen-3	474	527	A		-10.1	368.90 - 685.10	47.8		(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	430	418	A		2.9	292.60 - 543.40	31.3		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.77	1.67	A		6.0	1.34 - 2.48	0.19		(Bq/L)
Plutonium-239/240	2.48	2.45	A		1.2	1.92 - 3.58	0.27		(Bq/L)
Strontium-90	10.4	8.98	A		15.8	6.29 - 11.67	7.4	H	(Bq/L)
Technetium-99	64.3	66.5	A		-3.3	46.55 - 86.45	6.5		(Bq/L)
Uranium-234/233	4.01	4.1	A		-2.2	2.87 - 5.33	0.48		(Bq/L)
Uranium-238	4.14	4.26	A		-2.8	2.98 - 5.54	0.49		(Bq/L)
Zinc-65	366	330	A		10.9	231.00 - 429.00	24.6		(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

WEST03

Waste Sampling and Characterization Facility
PO Box 1000, S3-30
Richland WA 99352

Sample ID: MAPEP-05-MaW14

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WEST04

PACE ANALYTICAL SERVICES WALTZ MILL SITE
P.O. BOX 158

Sample ID: MAPEP-05-MaW14

MADISON		PA	15663-0158	Mixed Analyte Water Standard					
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.98	2.23	A		-11.2	1.56 - 2.90	0.313		(Bq/L)
Cesium-134	140	167	A		-16.2	116.90 - 217.10	6.06		(Bq/L)
Cesium-137	319	333	A		-4.2	233.10 - 432.90	26.6		(Bq/L)
Cobalt-57	261	272	A		-4.0	190.40 - 353.60	9.33		(Bq/L)
Cobalt-60	252	261	A		-3.4	182.70 - 339.30	6.58	L	(Bq/L)
Hydrogen-3	537	527	A		1.9	368.90 - 685.10	73.9		(Bq/L)
Iron-55	311	196	N		58.7	137.20 - 254.80	52.0		(Bq/L)
Manganese-54	411	418	A		-1.7	292.60 - 543.40	22.1		(Bq/L)
Nickel-63	95.3	100	A		-4.7	70.00 - 130.00	12.4		(Bq/L)
Plutonium-238	1.75	1.67	A		4.8	1.34 - 2.48	0.296		(Bq/L)
Plutonium-239/240	2.64	2.45	A		7.8	1.92 - 3.58	0.435		(Bq/L)
Strontium-90	8.35	8.98	A		-7.0	6.29 - 11.67	0.219	L	(Bq/L)
Technetium-99	72.6	66.5	A		9.2	46.55 - 86.45	37.5	H	(Bq/L)
Uranium-234/233	3.97	4.1	A		-3.2	2.87 - 5.33	0.589		(Bq/L)
Uranium-238	4.10	4.26	A		-3.8	2.98 - 5.54	0.608		(Bq/L)
Zinc-65	341	330	A		3.3	231.00 - 429.00	13.6		(Bq/L)

- Flags:**
- A = Result acceptable
 - W = Result acceptable with warning
 - N = Result not acceptable
 - L = Uncertainty potentially too low
 - H = Uncertainty potentially too high
 - Q = Participant should evaluate reported value
 - QL = Quantitation Limit
 - RW = Report Warning
 - NR = Not Reported
 - Bias <= 20%
 - 20% < Bias <= 30%
 - Bias > 30%
 - Flag Text
 - 1 - False Positive
 - 2 - False Negative
 - 4 - Sensitivity Evaluation
 - 5 - Total Metal
 - 6 - Not Evaluated
 - 7 - DL > CLP Limit
 - 9 - Check QL
 - 10 - Check Isomer
 - 11 - False Positive Test, Value Not Reported
 - 14 - Solubility Issue
 - 15 - Refractory
 - 16 - Reported zero uncertainty
 - 17 - NOT DETECTED, reported a statistically zero result.
 - 18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WIPH01

WI, DPH, Radiation Protection Section
PO Box 2659

Sample ID: MAPEP-05-MaW14

	Madison	WI	53701-2659	Mixed Analyte Water Standard						
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units	
Antimony	NR	1.77				1.24 - 2.30				
Arsenic	NR	2.04				1.43 - 2.65				
Barium	NR	16.34				11.44 - 21.24				
Beryllium	NR	1.276				0.89 - 1.66				
Chromium	NR	1.27				0.89 - 1.65				
Copper	NR	3.80				2.66 - 4.94				
Mercury	NR	0.00885				0.01 - 0.01				
Nickel	NR	1.457				1.02 - 1.89				
Selenium	NR	0.443				0.31 - 0.58				
Thallium	NR	4.97				3.48 - 6.46				
Uranium-Total	NR	0.344				0.24 - 0.45				
Uranium-235	NR	0.00248				0.00 - 0.00				
Uranium-238	NR	0.342				0.24 - 0.44				
Vanadium	NR	0.876				0.61 - 1.14				
Zinc	NR	4.57				3.20 - 5.94				
Americium-241	NR	2.23				1.56 - 2.90				
Cesium-134	157.	167	A		-6.0	116.90 - 217.10	3.	L	(Bq/L)	
Cesium-137	323.	333	A		-3.0	233.10 - 432.90	9.	L	(Bq/L)	
Cobalt-57	278.	272	A		2.2	190.40 - 353.60	8.	L	(Bq/L)	
Cobalt-60	260.	261	A		-0.4	182.70 - 339.30	5.	L	(Bq/L)	
Hydrogen-3	NR	527				368.90 - 685.10				
Iron-55	NR	196				137.20 - 254.80				
Manganese-54	414.	418	A		-1.0	292.60 - 543.40	10.	L	(Bq/L)	
Nickel-63	NR	100				70.00 - 130.00				
Plutonium-238	NR	1.67				1.34 - 2.48				
Plutonium-239/240	NR	2.45				1.92 - 3.58				
Strontium-90	NR	8.98				6.29 - 11.67				
Technetium-99	NR	66.5				46.55 - 86.45				
Uranium-234/233	NR	4.1				2.87 - 5.33				
Uranium-238	NR	4.26				2.98 - 5.54				
Zinc-65	341.	330	A		3.3	231.00 - 429.00	12.		(Bq/L)	

Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WIPP01

WIPP Laboratories

1400 University Drive

Carlsbad

NM

88220

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	2.03E0	2.23	A		-9.0	1.56 - 2.90	1.57E-1		(Bq/L)
Cesium-134	1.62E2	167	A		-3.0	116.90 - 217.10	2.64E1		(Bq/L)
Cesium-137	3.16E2	333	A		-5.1	233.10 - 432.90	4.99E1		(Bq/L)
Cobalt-57	4.34E2	272	N		59.6	190.40 - 353.60	7.35E1		(Bq/L)
Cobalt-60	2.75E2	261	A		5.4	182.70 - 339.30	3.99E1		(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	4.15E2	418	A		-0.7	292.60 - 543.40	5.98E1		(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	1.65E0	1.67	A		-1.2	1.34 - 2.48	1.57E-1		(Bq/L)
Plutonium-239/240	2.43E0	2.45	A		-0.8	1.92 - 3.58	2.04E-1		(Bq/L)
Strontium-90	8.27E0	8.98	A		-7.9	6.29 - 11.67	7.88E-1		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	4.14e0	4.1	A		1.0	2.87 - 5.33	3.08e-1		(Bq/L)
Uranium-238	4.25e0	4.26	A		-0.2	2.98 - 5.54	3.14e-1		(Bq/L)
Zinc-65	3.50E2	330	A		6.1	231.00 - 429.00	4.75E1		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning

20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text: 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WSHL01

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive

Sample ID: MAPEP-05-MaW14

Madison WI 53718

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	158.3	167	A		-5.2	116.90 - 217.10	3.5	L	(Bq/L)
Cesium-137	313.7	333	A		-5.8	233.10 - 432.90	6.5	L	(Bq/L)
Cobalt-57	264.0	272	A		-2.9	190.40 - 353.60	7.4	L	(Bq/L)
Cobalt-60	255.2	261	A		-2.2	182.70 - 339.30	3.9	L	(Bq/L)
Hydrogen-3	522.4	527	A		-0.9	368.90 - 685.10	11.0	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	408.1	418	A		-2.4	292.60 - 543.40	7.9	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	10.4	8.98	A		15.8	6.29 - 11.67	0.4		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	350.2	330	A		6.1	231.00 - 429.00	7.7	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

Flag Text 1 - False Positive

W = Result acceptable with warning 20% < Bias <= 30%

2 - False Negative

N = Result not acceptable

4 - Sensitivity Evaluation

L = Uncertainty potentially too low

5 - Total Metal

H = Uncertainty potentially too high

6 - Not Evaluated

Q = Participant should evaluate reported value

7 - DL > CLP Limit

QL = Quantitation Limit

9 - Check QL

RW = Report Warning

10 - Check Isomer

NR = Not Reported

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WVDP01

WVDP Environmental Laboratory

10282 Rock Springs Road

West Valley

NY

14171

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	147	167	A		-12.0	116.90 - 217.10	0.995	L	(Bq/L)
Cesium-137	316	333	A		-5.1	233.10 - 432.90	1.31	L	(Bq/L)
Cobalt-57	264	272	A		-2.9	190.40 - 353.60	0.669	L	(Bq/L)
Cobalt-60	254	261	A		-2.7	182.70 - 339.30	1.29	L	(Bq/L)
Hydrogen-3	530	527	A		0.6	368.90 - 685.10	8.84	L	(Bq/L)
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	403	418	A		-3.6	292.60 - 543.40	1.55	L	(Bq/L)
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	8.39	8.98	A		-6.6	6.29 - 11.67	0.394		(Bq/L)
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	338	330	A		2.4	231.00 - 429.00	2.72	L	(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

Bias > 30%

N = Result not acceptable

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

WVNS01

West Valley Nuclear Services

10282 Rock Springs Road

West Valley

NY

14171-9799

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	<0.4	1.77	N	2		1.24 - 2.30			(mg/L)
Arsenic	2.127	2.04	A		4.3	1.43 - 2.65	0.0447	L	(mg/L)
Barium	15.96	16.34	A		-2.3	11.44 - 21.24	0.1212	L	(mg/L)
Beryllium	1.636	1.276	W		28.2	0.89 - 1.66	0.0123	L	(mg/L)
Cadmium	<0.05		A						(mg/L)
Chromium	1.216	1.27	A		-4.3	0.89 - 1.65	0.0083	L	(mg/L)
Copper	3.647	3.80	A		-4.0	2.66 - 4.94	0.0066	L	(mg/L)
Lead	<0.5		A	19					(mg/L)
Mercury	0.007	0.00885	W		-20.9	0.01 - 0.01			(mg/L)
Nickel	1.372	1.457	A		-5.8	1.02 - 1.89	0.0056	L	(mg/L)
Selenium	0.469	0.443	A		5.9	0.31 - 0.58	0.0122	L	(mg/L)
Silver	<0.1		A						(mg/L)
Thallium	4.77	4.97	A		-4.0	3.48 - 6.46	0.0525	L	(mg/L)
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	0.828	0.876	A		-5.5	0.61 - 1.14	0.0059	L	(mg/L)
Zinc	4.55	4.57	A		-0.4	3.20 - 5.94	0.0350	L	(mg/L)
Americium-241	2.3088	2.23	A		3.5	1.56 - 2.90	0.14578		(Bq/L)
Cesium-134	148	167	A		-11.4	116.90 - 217.10	2.48	L	(Bq/L)
Cesium-137	304	333	A		-8.7	233.10 - 432.90	4.74	L	(Bq/L)
Cobalt-57	256	272	A		-5.9	190.40 - 353.60	3.14	L	(Bq/L)
Cobalt-60	246	261	A		-5.7	182.70 - 339.30	3.86	L	(Bq/L)
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	169.09	196	A		-13.7	137.20 - 254.80	15.196		(Bq/L)
Manganese-54	390	418	A		-6.7	292.60 - 543.40	5.92	L	(Bq/L)
Nickel-63	111.74	100	A		11.7	70.00 - 130.00	18.594		(Bq/L)
Plutonium-238	1.8722	1.67	A		12.1	1.34 - 2.48	0.0666		(Bq/L)
Plutonium-239/240	2.479	2.45	A		1.2	1.92 - 3.58	0.089		(Bq/L)
Strontium-90	13.325	8.98	N		48.4	6.29 - 11.67	5.776	H	(Bq/L)
Technetium-99	25.308	66.5	N		-61.9	46.55 - 86.45	0.6211	L	(Bq/L)
Uranium-234/233	3.4854	4.1	A		-15.0	2.87 - 5.33	0.119		(Bq/L)
Uranium-238	3.6704	4.26	A		-13.8	2.98 - 5.54	0.1204		(Bq/L)
Zinc-65	327	330	A		-0.9	231.00 - 429.00	5.46	L	(Bq/L)

Mixed Analyte Performance Evaluation Program

Laboratory Results

WVNS01

West Valley Nuclear Services
10282 Rock Springs Road
West Valley NY 14171-9799

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Flags:

A = Result acceptable Bias <= 20%
W = Result acceptable with warning 20% < Bias <= 30%
N = Result not acceptable Bias > 30%
L = Uncertainty potentially too low
H = Uncertainty potentially too high
Q = Participant should evaluate reported value
QL = Quantitation Limit
RW = Report Warning
NR = Not Reported

Flag Text

1 - False Positive
2 - False Negative
4 - Sensitivity Evaluation
5 - Total Metal
6 - Not Evaluated
7 - DL > CLP Limit
9 - Check QL
10 - Check Isomer
11 - False Positive Test, Value Not Reported
14 - Solubility Issue
15 - Refractory
16 - Reported zero uncertainty
17 - NOT DETECTED, reported a statistically zero result.
18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

YAEC01

Framatome ANP Environmental Laboratory

29 Research Drive

Westboro

MA

01581

Sample ID: MAPEP-05-MaW14

Mixed Analyte Water Standard

Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	NR	0.344				0.24 - 0.45			
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	1.849	2.23	A		-17.1	1.56 - 2.90	.053	L	(Bq/L)
Cesium-134	160.70	167	A		-3.8	116.90 - 217.10	8.1		(Bq/L)
Cesium-137	306.04	333	A		-8.1	233.10 - 432.90	15		(Bq/L)
Cobalt-57	256.75	272	A		-5.6	190.40 - 353.60	13		(Bq/L)
Cobalt-60	248.45	261	A		-4.8	182.70 - 339.30	12		(Bq/L)
Hydrogen-3	570.7	527	A		8.3	368.90 - 685.10	30		(Bq/L)
Iron-55	207.8	196	A		6.0	137.20 - 254.80	17		(Bq/L)
Manganese-54	391.7	418	A		-6.3	292.60 - 543.40	20		(Bq/L)
Nickel-63	93.5	100	A		-6.5	70.00 - 130.00	7.8		(Bq/L)
Plutonium-238	1.659	1.67	A		-0.7	1.34 - 2.48	0.033	L	(Bq/L)
Plutonium-239/240	2.305	2.45	A		-5.9	1.92 - 3.58	0.043	L	(Bq/L)
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	60.8	66.5	A		-8.6	46.55 - 86.45	3.8		(Bq/L)
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	326.0	330	A		-1.2	231.00 - 429.00	16		(Bq/L)

Flags: A = Result acceptable

Bias <= 20%

W = Result acceptable with warning 20% < Bias <= 30%

N = Result not acceptable

Bias > 30%

L = Uncertainty potentially too low

H = Uncertainty potentially too high

Q = Participant should evaluate reported value

QL = Quantitation Limit

RW = Report Warning

NR = Not Reported

Flag Text 1 - False Positive

2 - False Negative

4 - Sensitivity Evaluation

5 - Total Metal

6 - Not Evaluated

7 - DL > CLP Limit

9 - Check QL

10 - Check Isomer

11 - False Positive Test, Value Not Reported

14 - Solubility Issue

15 - Refractory

16 - Reported zero uncertainty

17 - NOT DETECTED, reported a statistically zero result.

18 - Sensitivity evaluation, value not reported.

Mixed Analyte Performance Evaluation Program

Laboratory Results

YPGA01

US Army Yuma Proving Ground / Material Analysis Lab

301 C. Street

Sample ID: MAPEP-05-MaW14

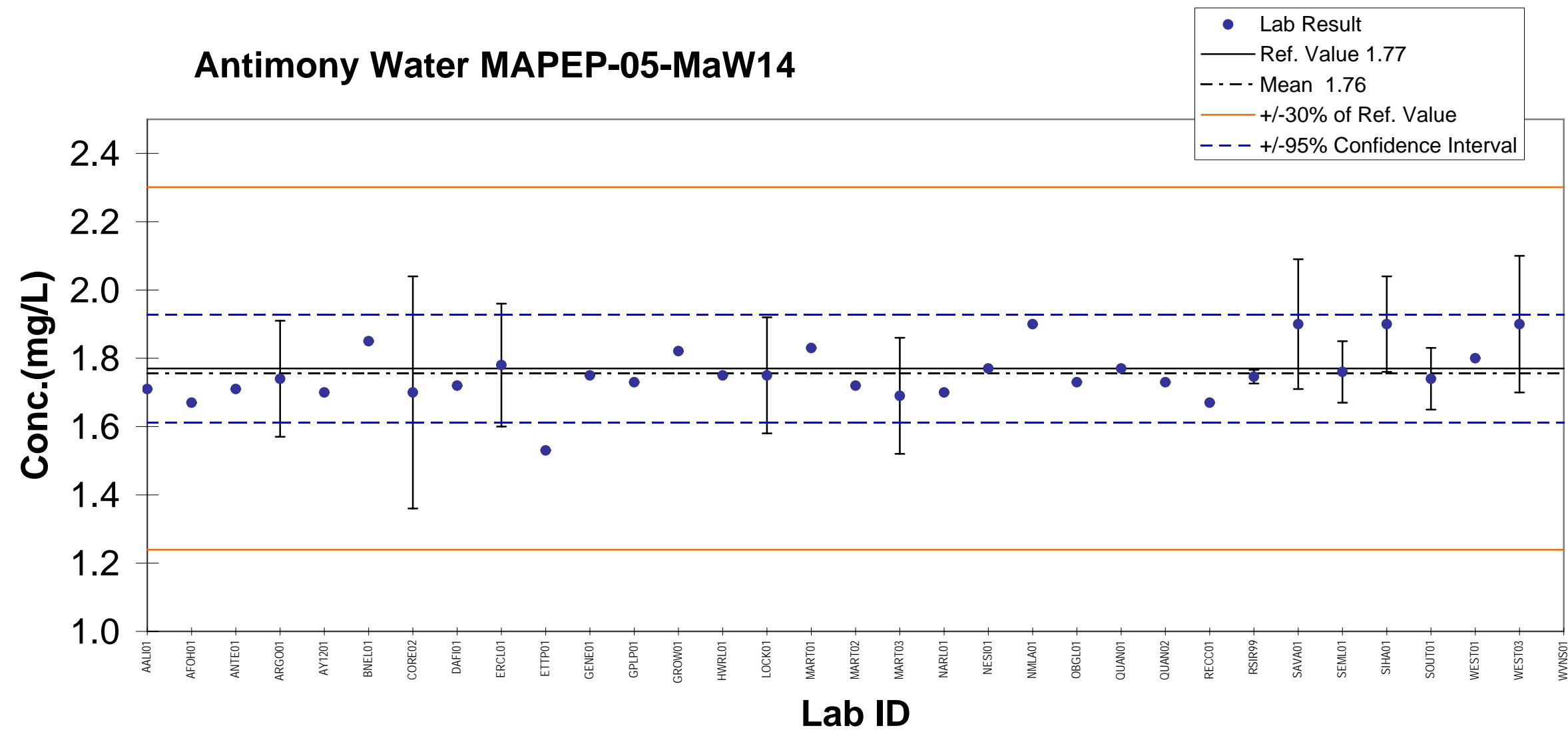
Yuma AZ 85365

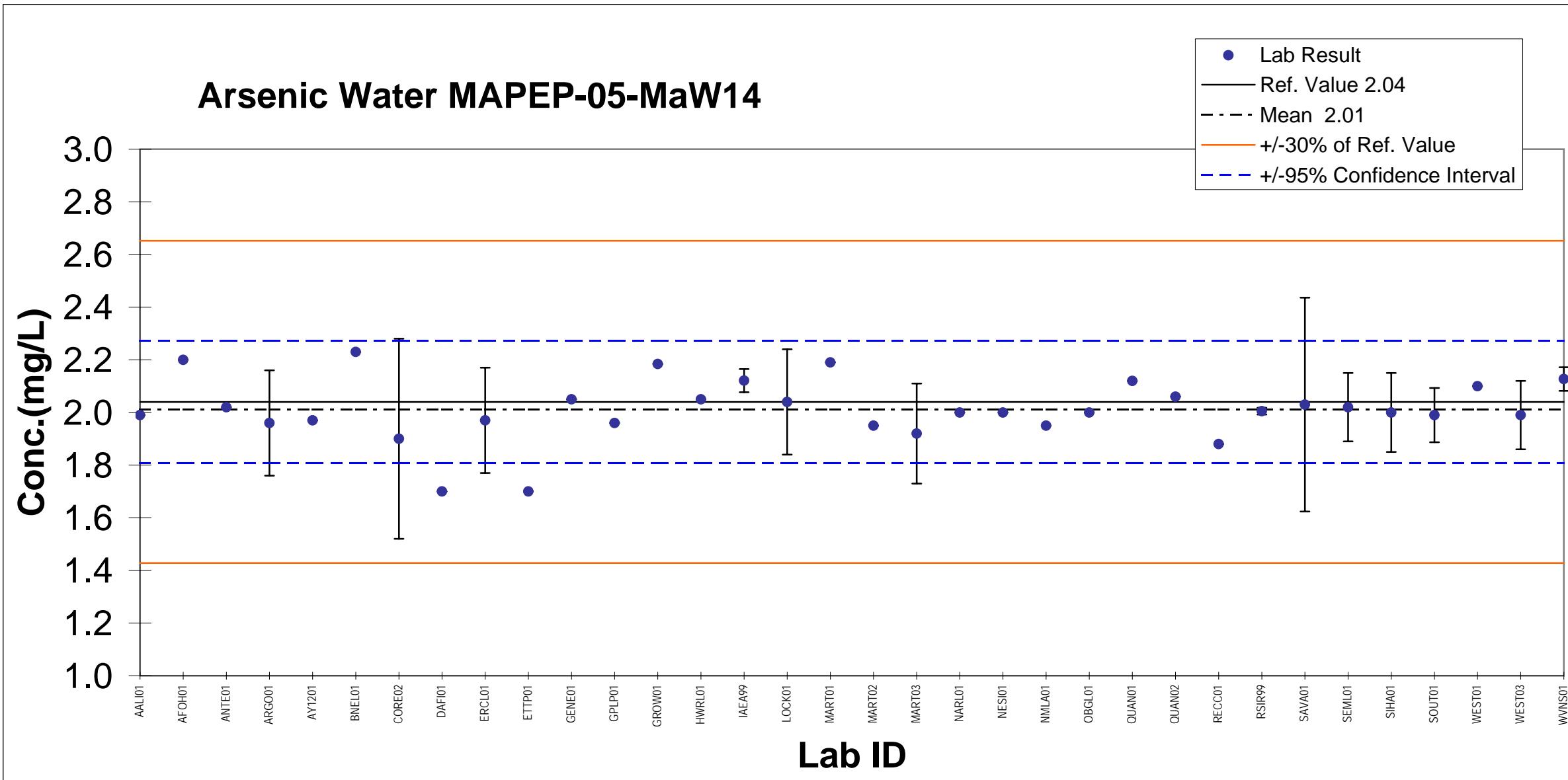
Mixed Analyte Water Standard

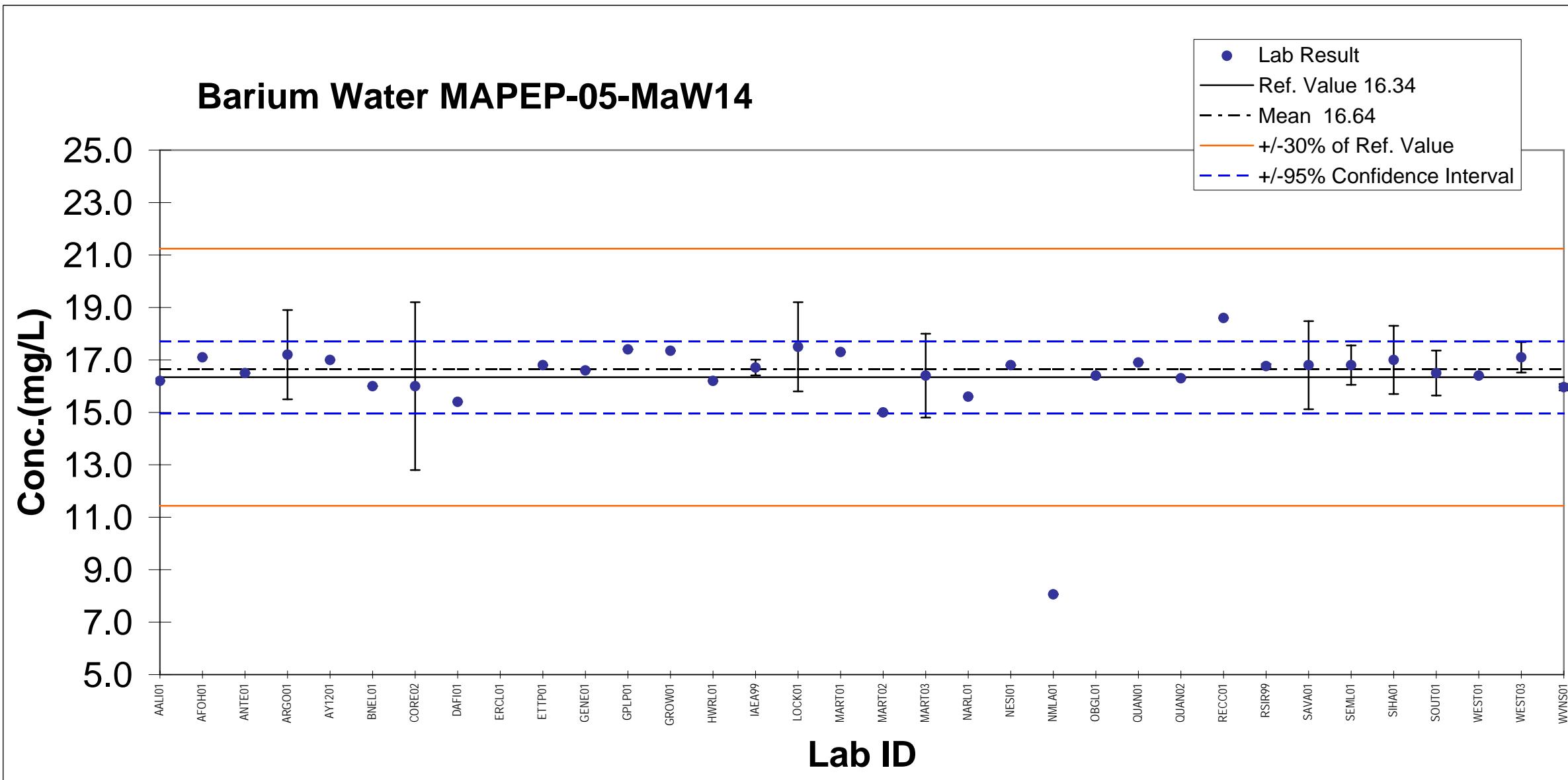
Analyte	Result	Ref Value	Flag	Flag Text	Bias (%)	Acceptance Range	Unc Value	Unc. Flag	Units
Antimony	NR	1.77				1.24 - 2.30			
Arsenic	NR	2.04				1.43 - 2.65			
Barium	NR	16.34				11.44 - 21.24			
Beryllium	NR	1.276				0.89 - 1.66			
Chromium	NR	1.27				0.89 - 1.65			
Copper	NR	3.80				2.66 - 4.94			
Mercury	NR	0.00885				0.01 - 0.01			
Nickel	NR	1.457				1.02 - 1.89			
Selenium	NR	0.443				0.31 - 0.58			
Thallium	NR	4.97				3.48 - 6.46			
Uranium-Total	0.486	0.344	N		41.3	0.24 - 0.45	0.048		(mg/L)
Uranium-235	NR	0.00248				0.00 - 0.00			
Uranium-238	NR	0.342				0.24 - 0.44			
Vanadium	NR	0.876				0.61 - 1.14			
Zinc	NR	4.57				3.20 - 5.94			
Americium-241	NR	2.23				1.56 - 2.90			
Cesium-134	NR	167				116.90 - 217.10			
Cesium-137	NR	333				233.10 - 432.90			
Cobalt-57	NR	272				190.40 - 353.60			
Cobalt-60	NR	261				182.70 - 339.30			
Hydrogen-3	NR	527				368.90 - 685.10			
Iron-55	NR	196				137.20 - 254.80			
Manganese-54	NR	418				292.60 - 543.40			
Nickel-63	NR	100				70.00 - 130.00			
Plutonium-238	NR	1.67				1.34 - 2.48			
Plutonium-239/240	NR	2.45				1.92 - 3.58			
Strontium-90	NR	8.98				6.29 - 11.67			
Technetium-99	NR	66.5				46.55 - 86.45			
Uranium-234/233	NR	4.1				2.87 - 5.33			
Uranium-238	NR	4.26				2.98 - 5.54			
Zinc-65	NR	330				231.00 - 429.00			

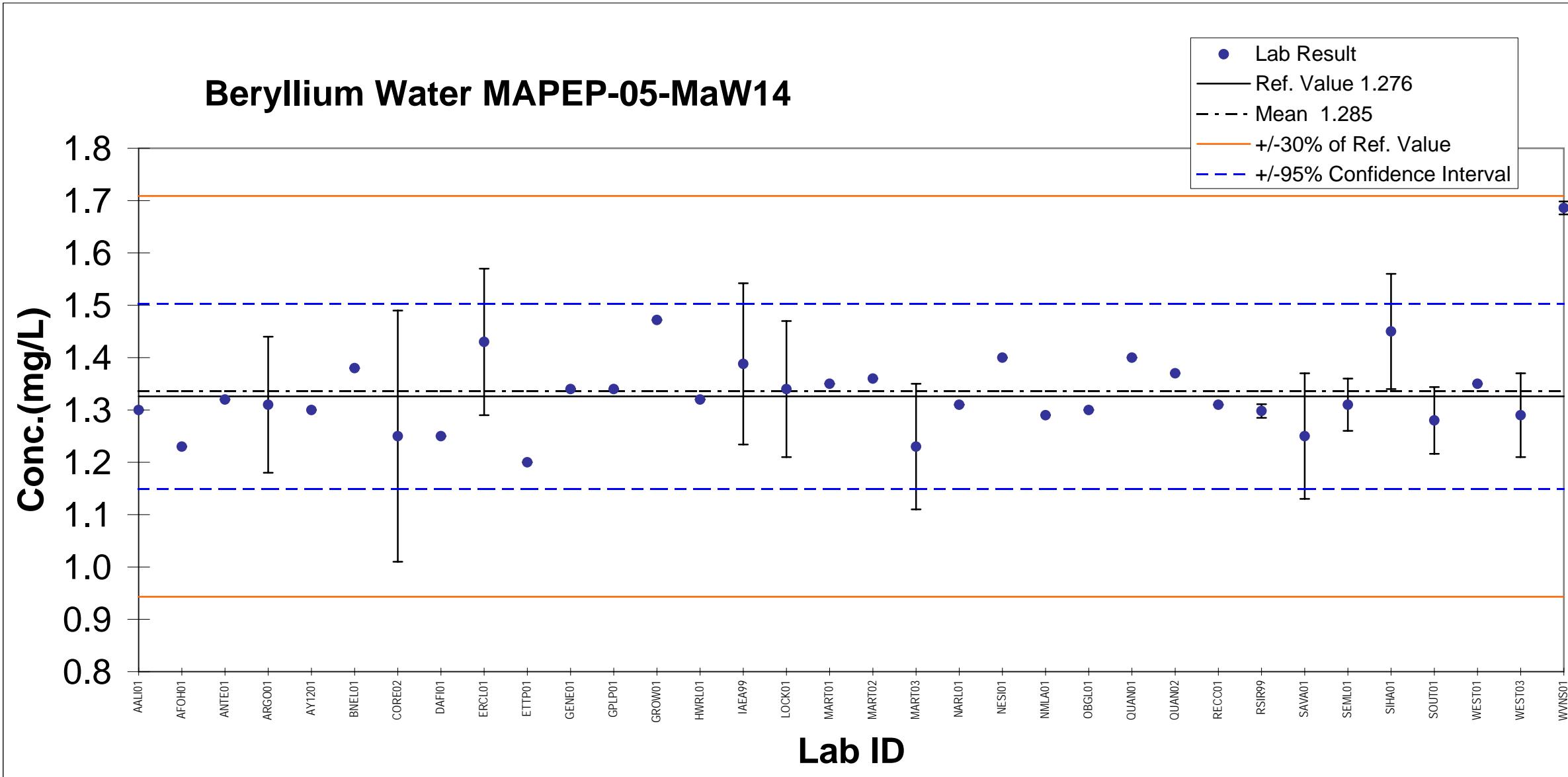
Flags:	A = Result acceptable	Bias <= 20%	Flag Text	1 - False Positive
	W = Result acceptable with warning	20% < Bias <= 30%		2 - False Negative
	N = Result not acceptable	Bias > 30%		4 - Sensitivity Evaluation
	L = Uncertainty potentially too low			5 - Total Metal
	H = Uncertainty potentially too high			6 - Not Evaluated
	Q = Participant should evaluate reported value			7 - DL > CLP Limit
	QL = Quantitation Limit			9 - Check QL
	RW = Report Warning			10 - Check Isomer
	NR = Not Reported			11 - False Positive Test, Value Not Reported
				14 - Solubility Issue
				15 - Refractory
				16 - Reported zero uncertainty
				17 - NOT DETECTED, reported a statistically zero result.
				18 - Sensitivity evaluation, value not reported.

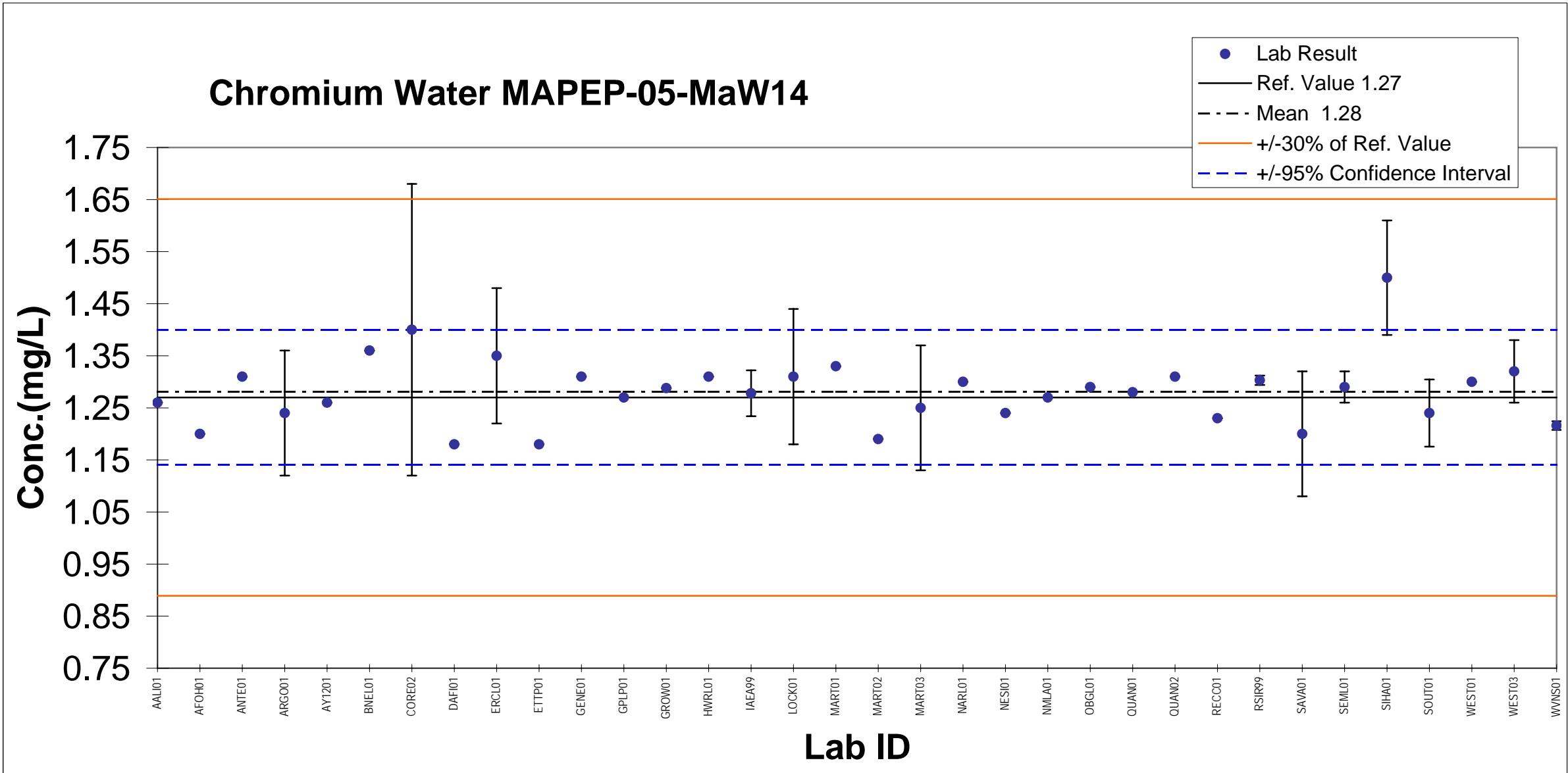
Antimony Water MAPEP-05-MaW14





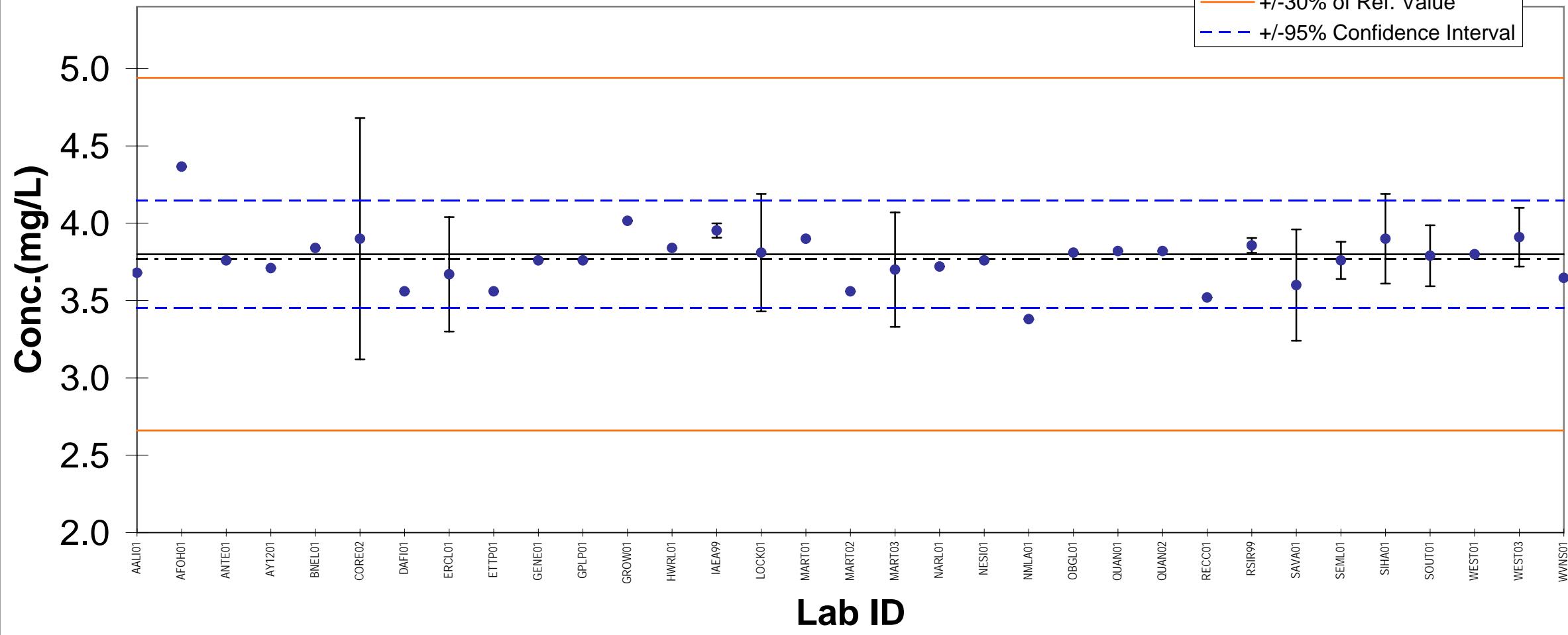


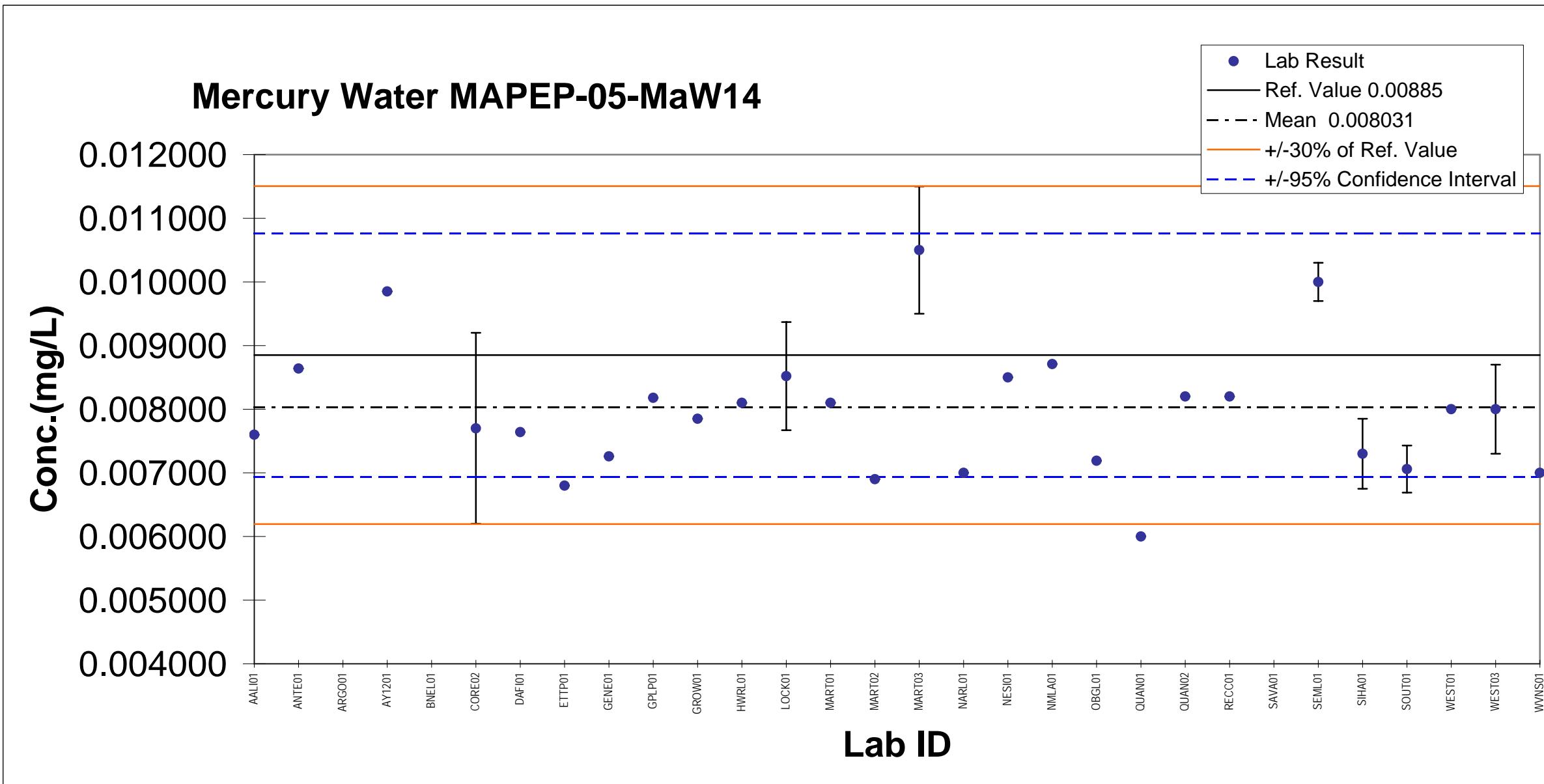


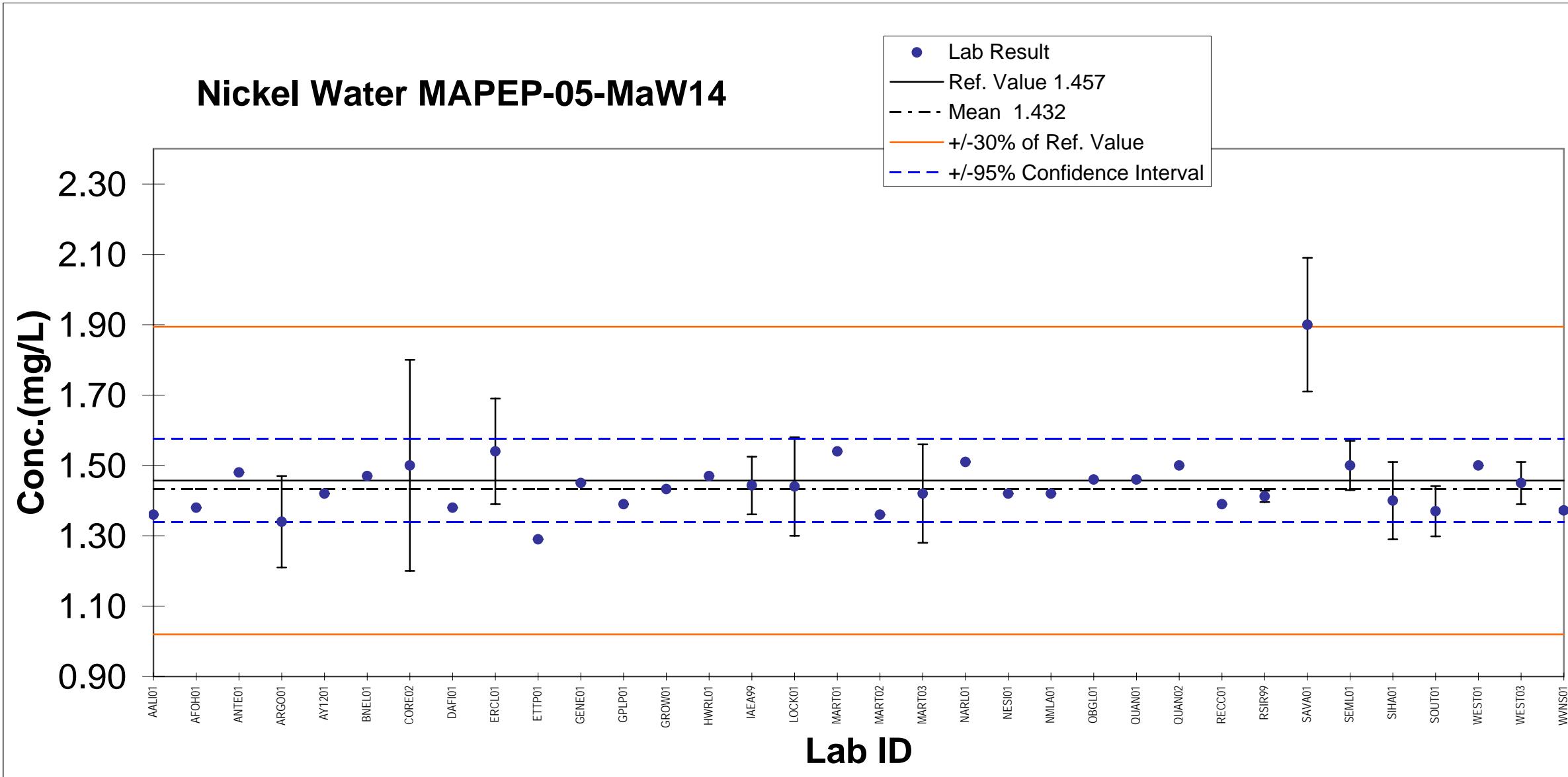


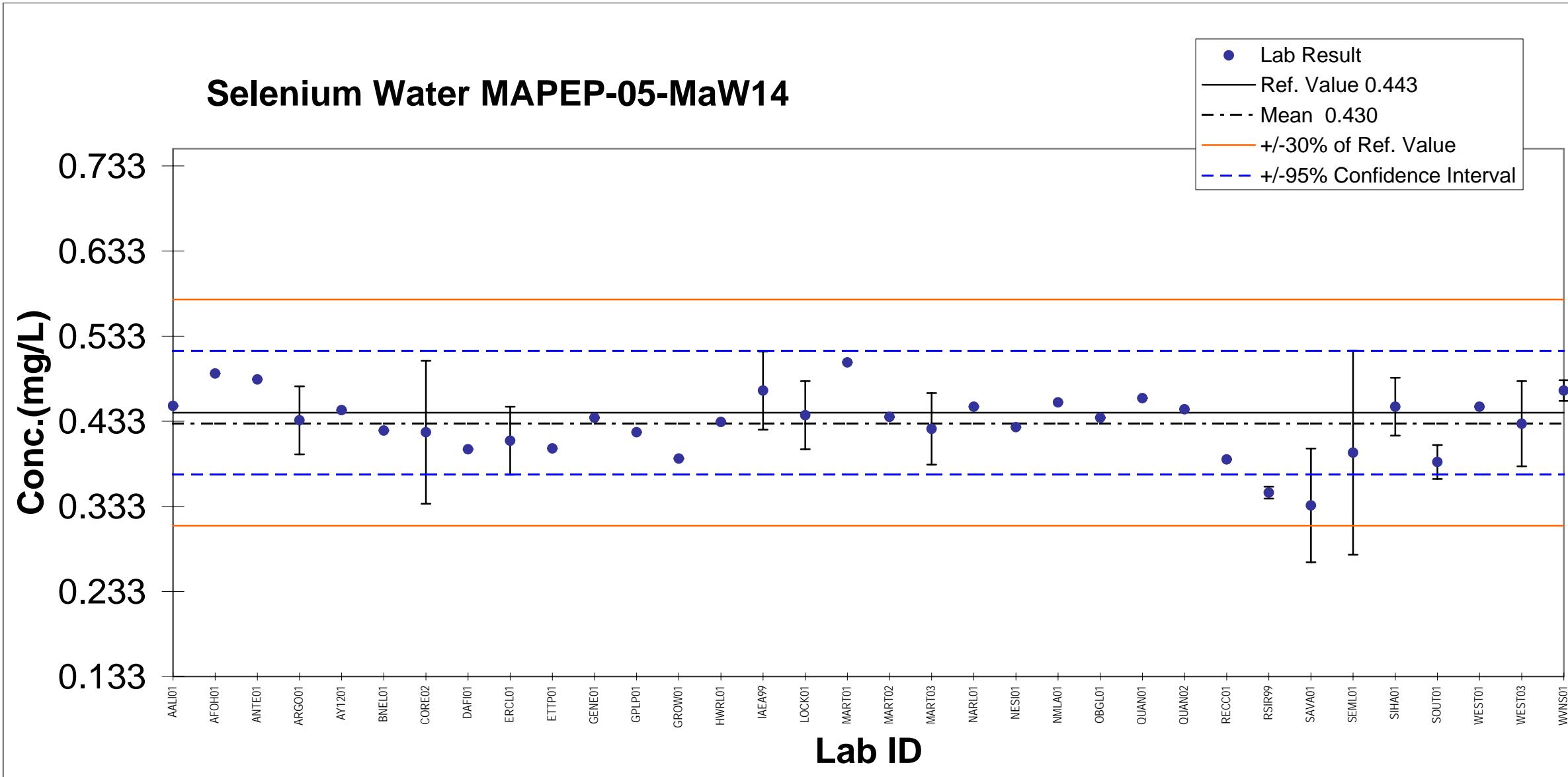
Copper Water MAPEP-05-MaW14

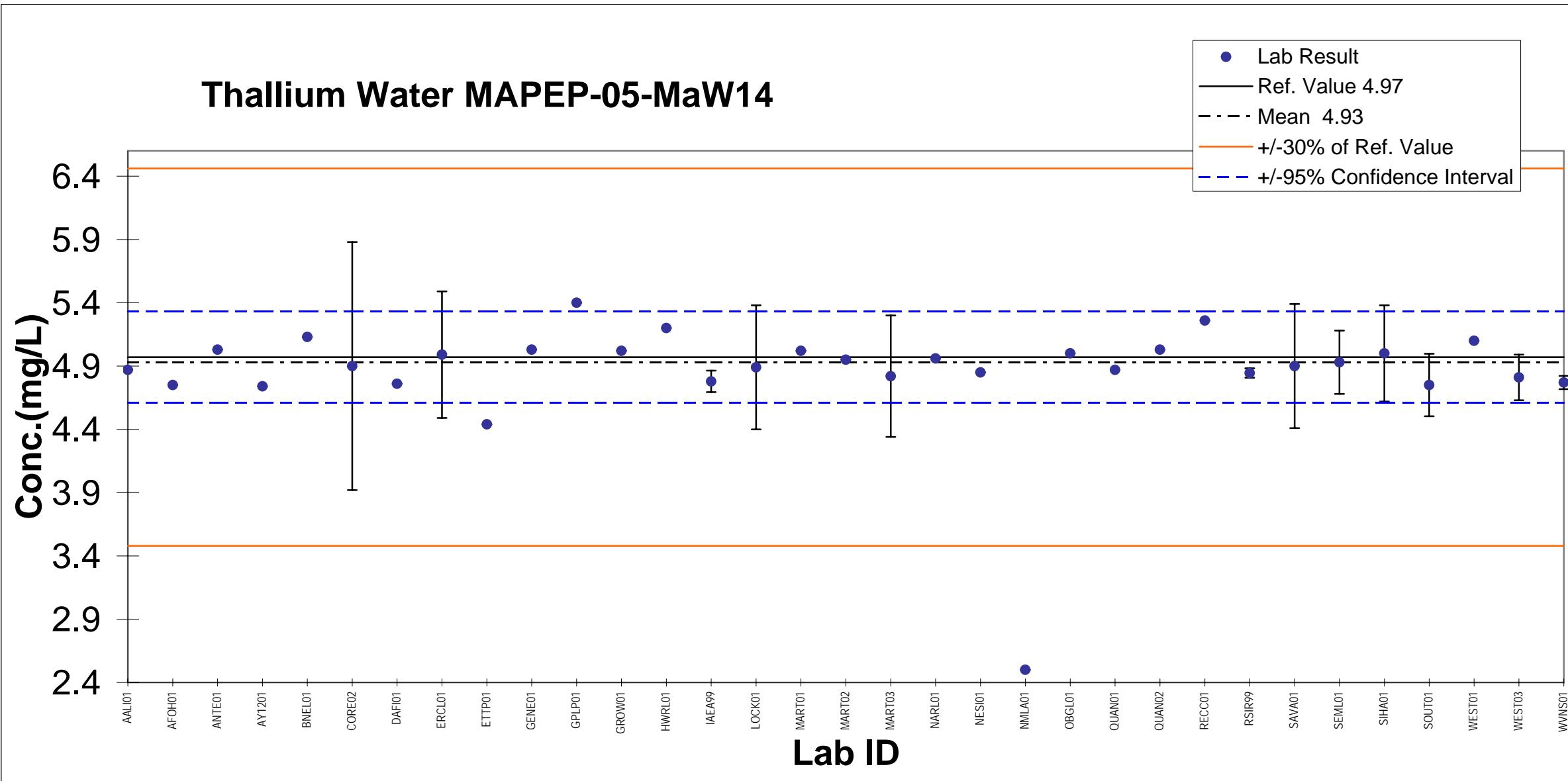
● Lab Result
— Ref. Value 3.80
- - - Mean 3.77
— +/−30% of Ref. Value
- - - +/−95% Confidence Interval

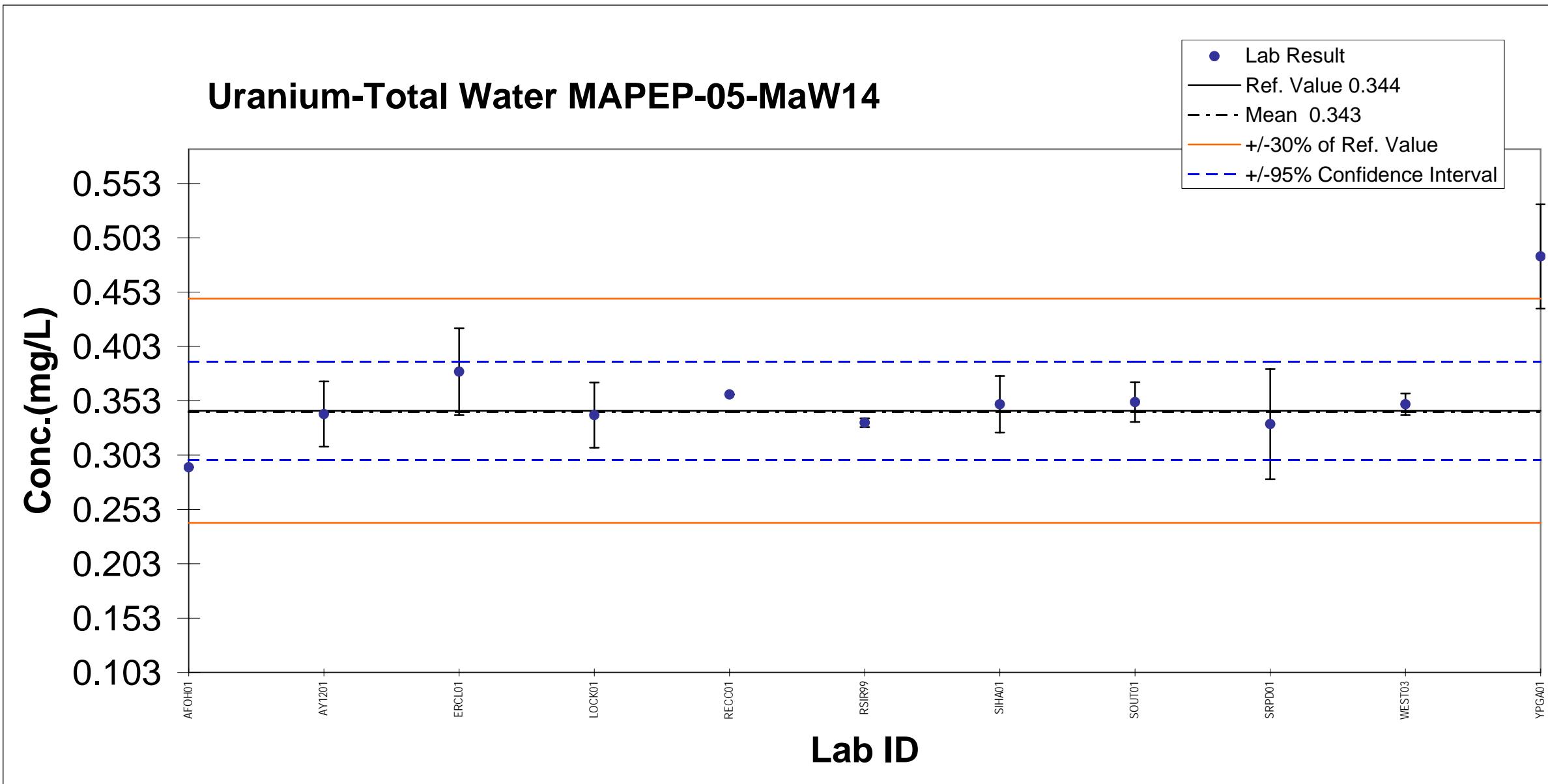


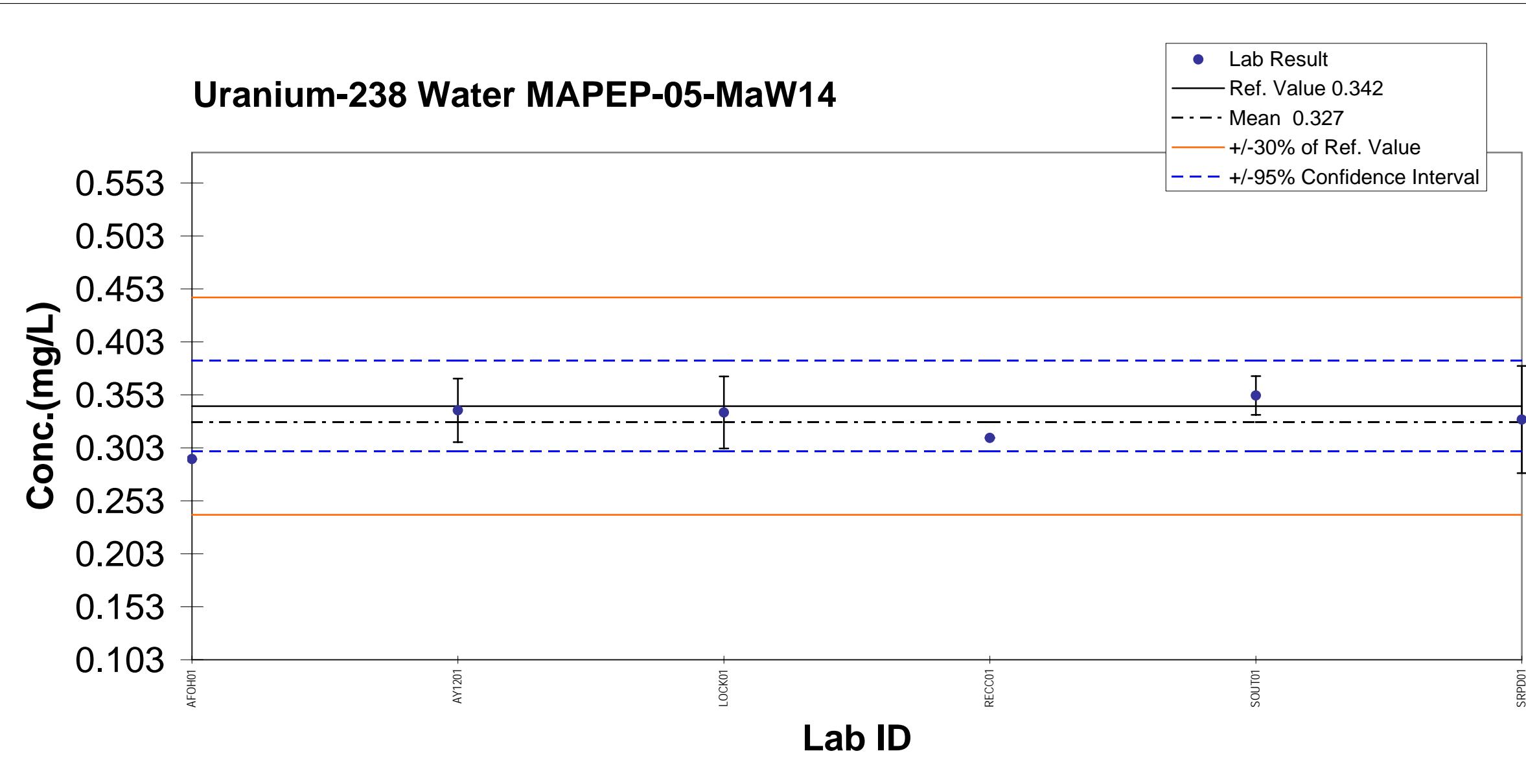


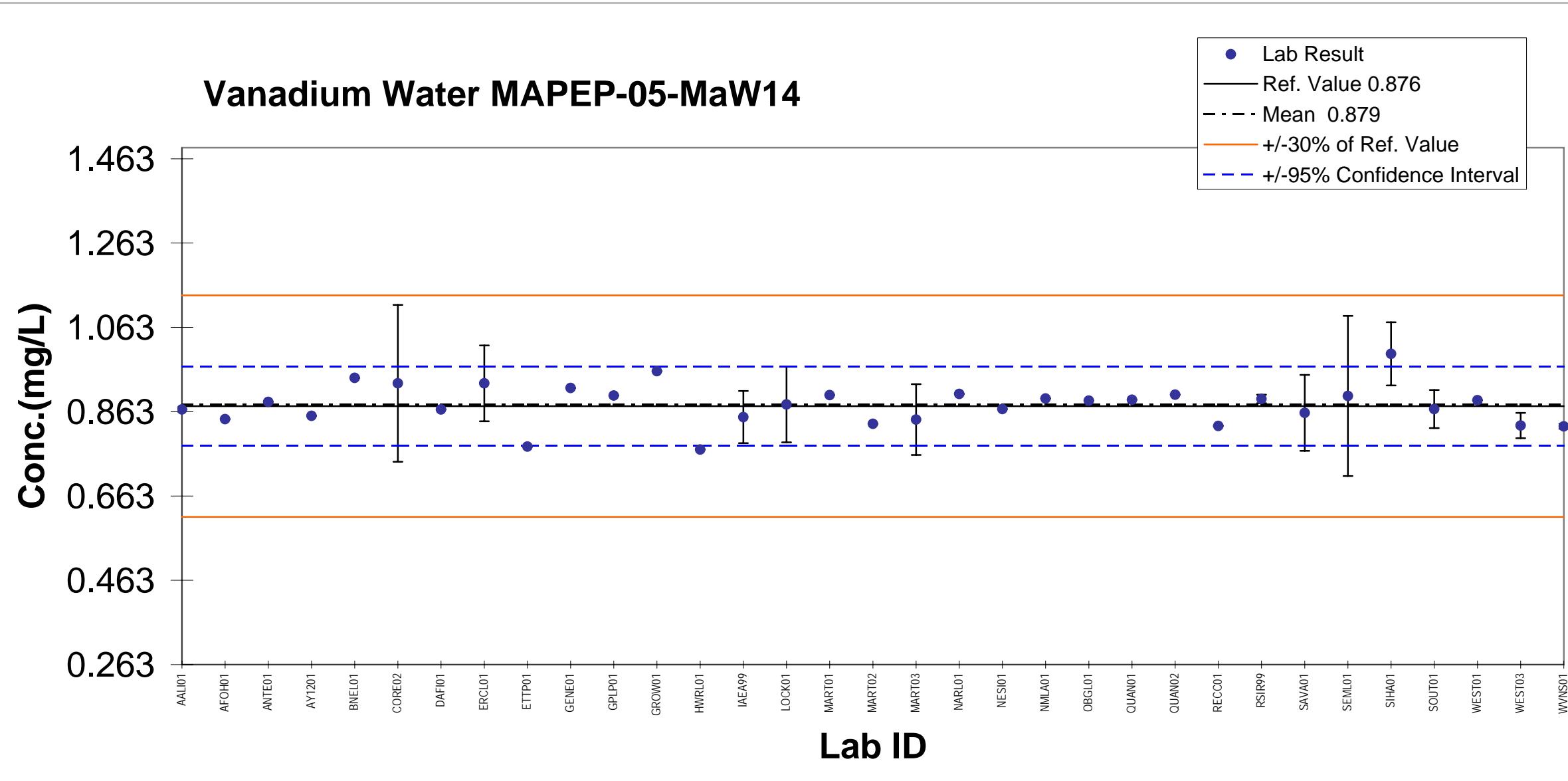


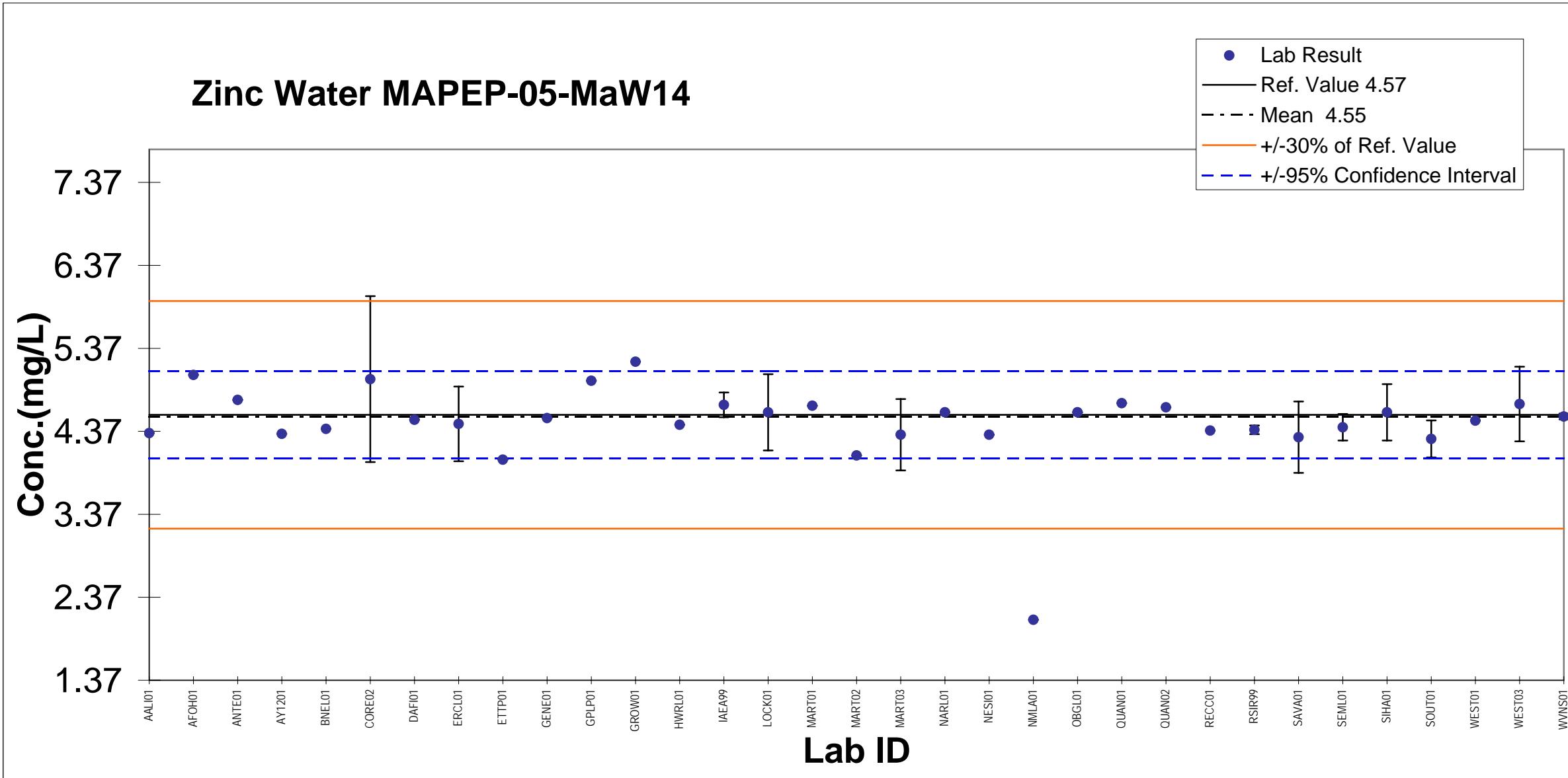


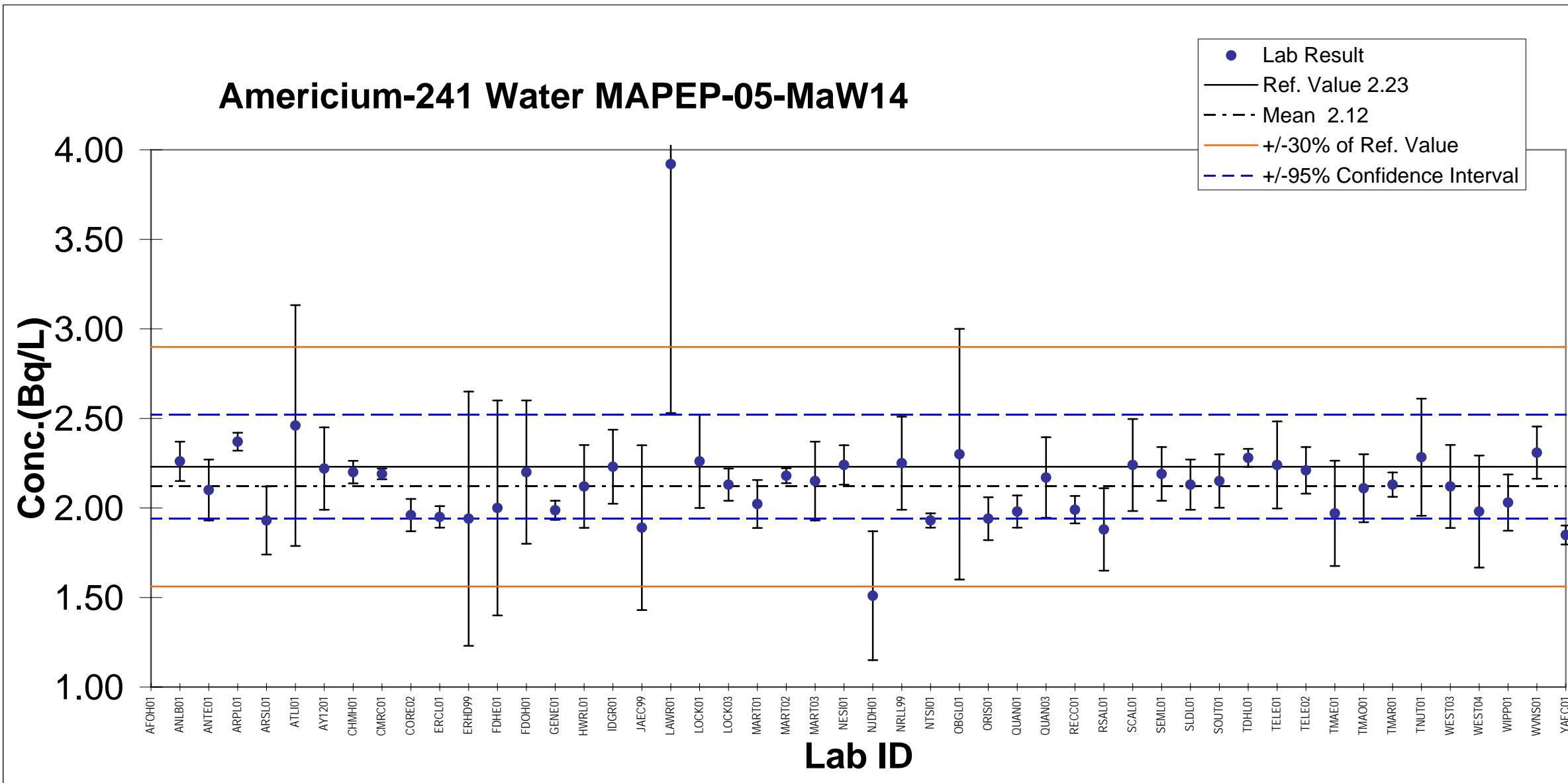


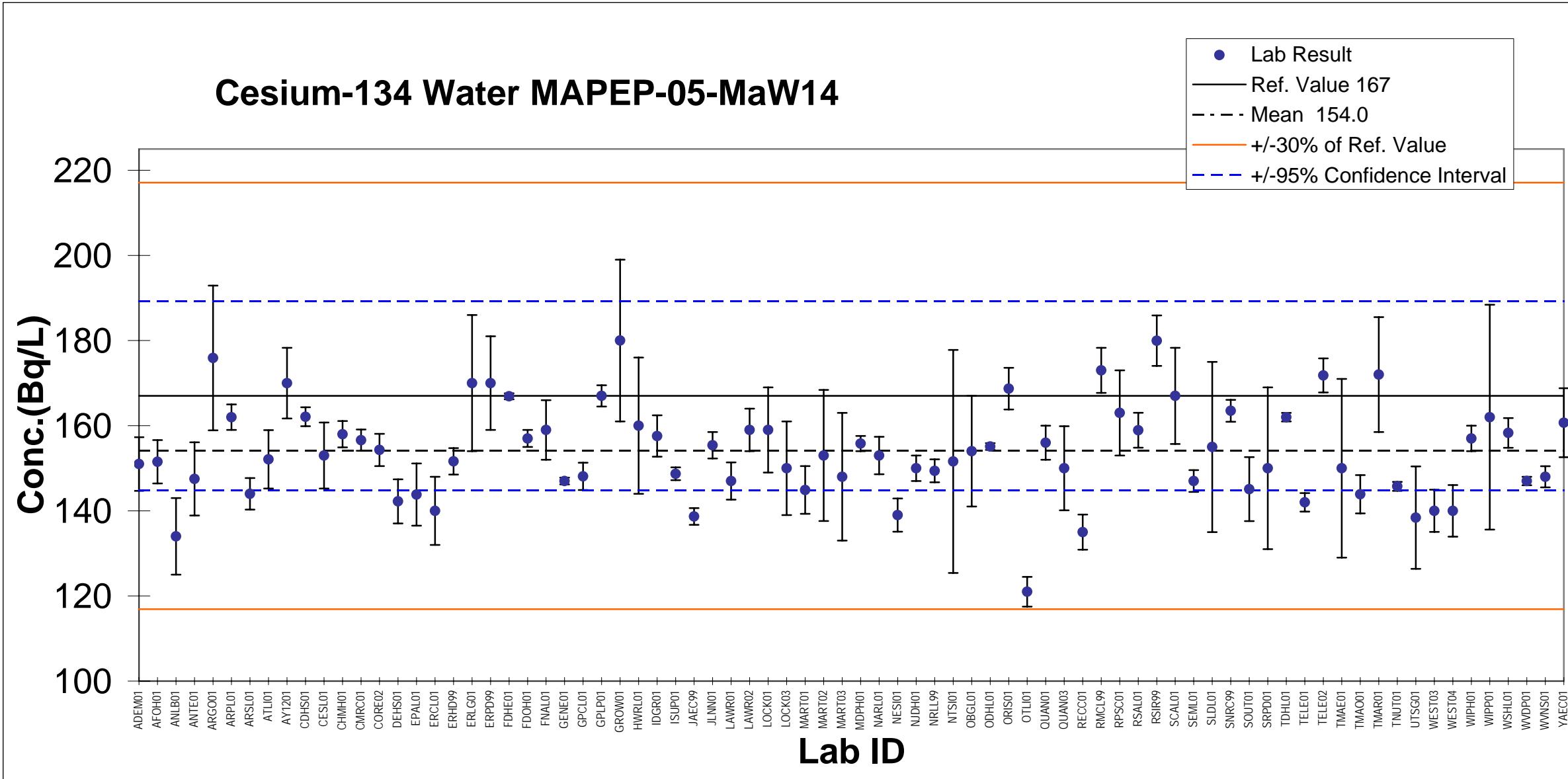


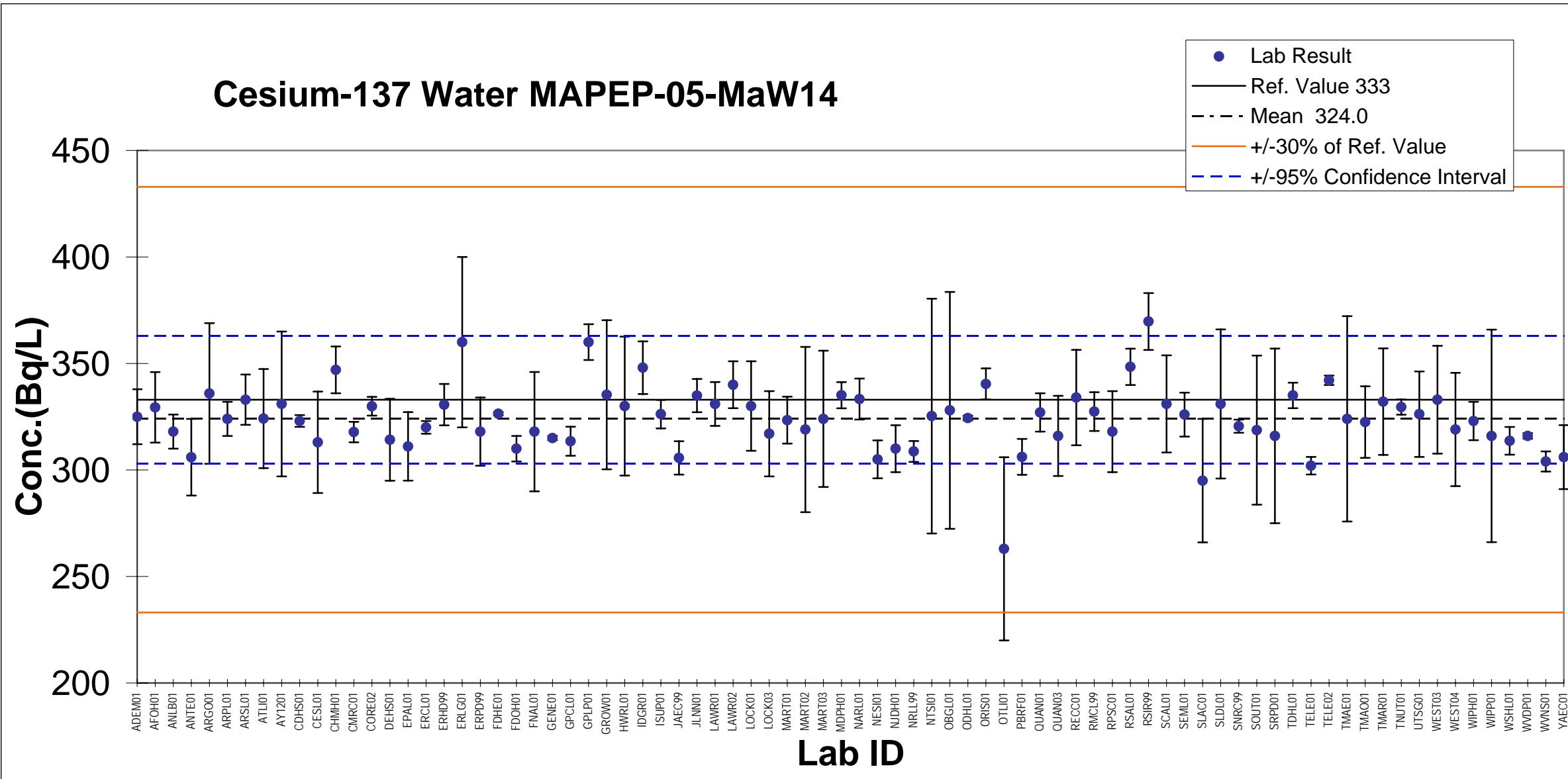


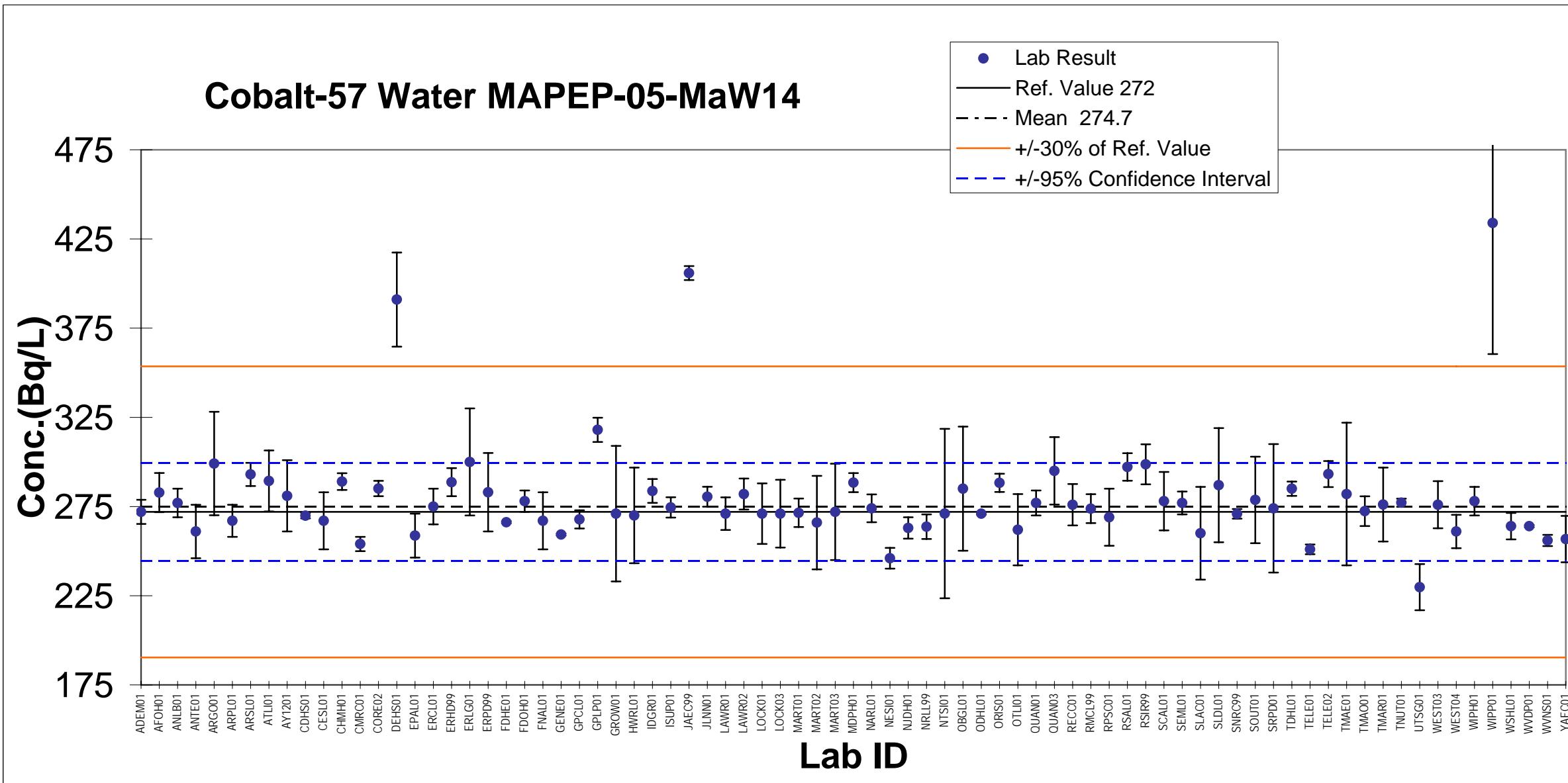


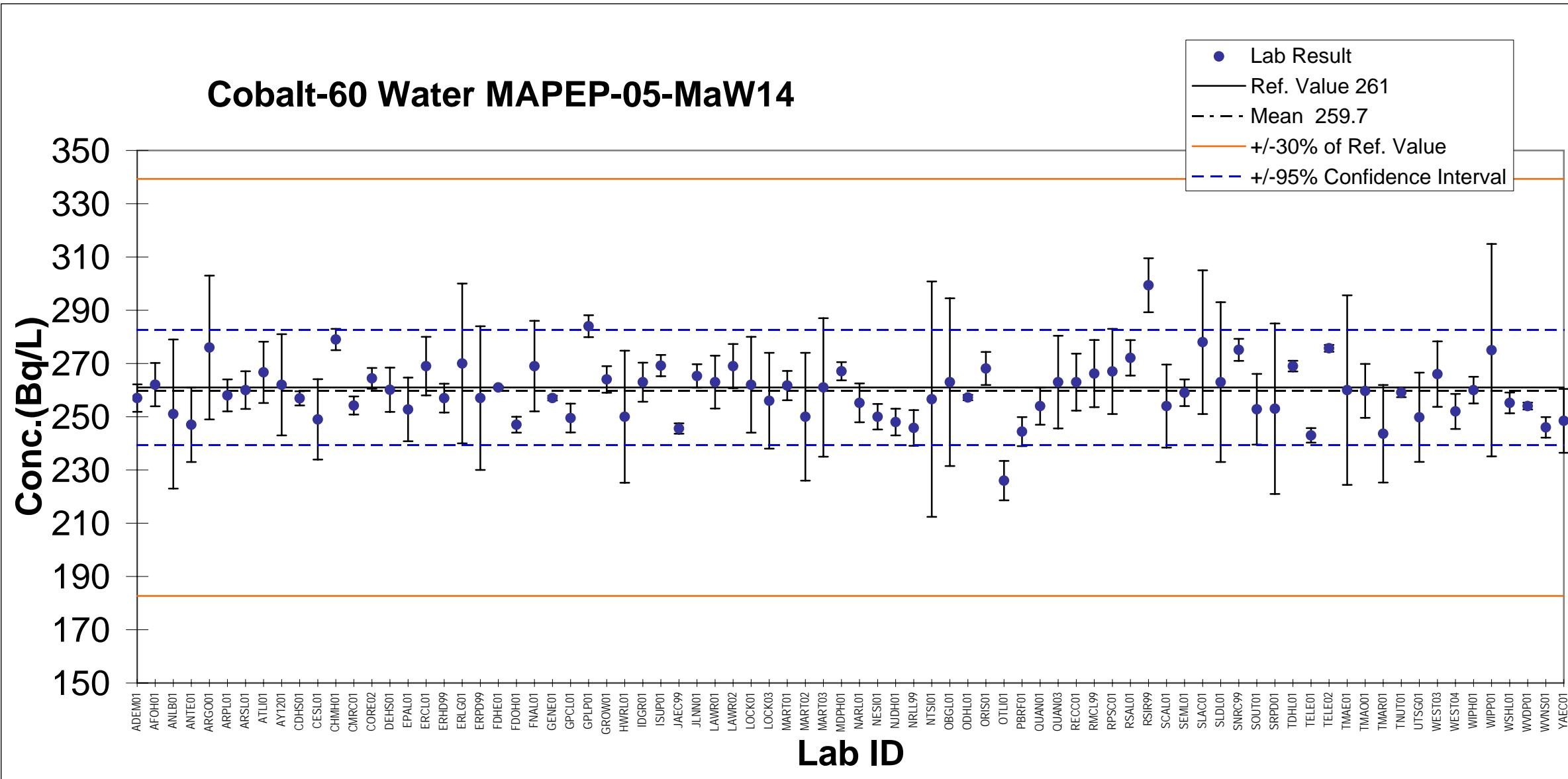




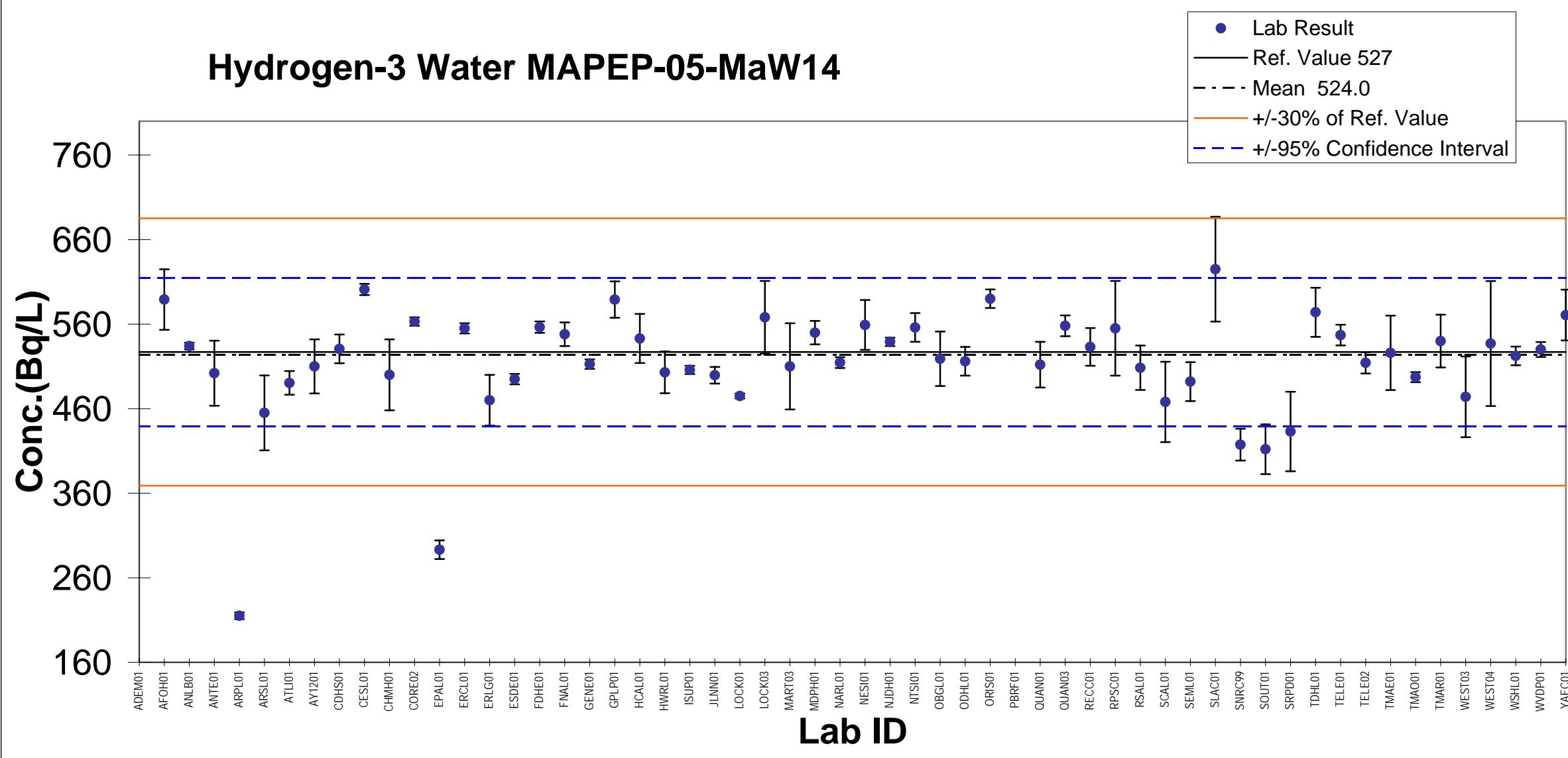






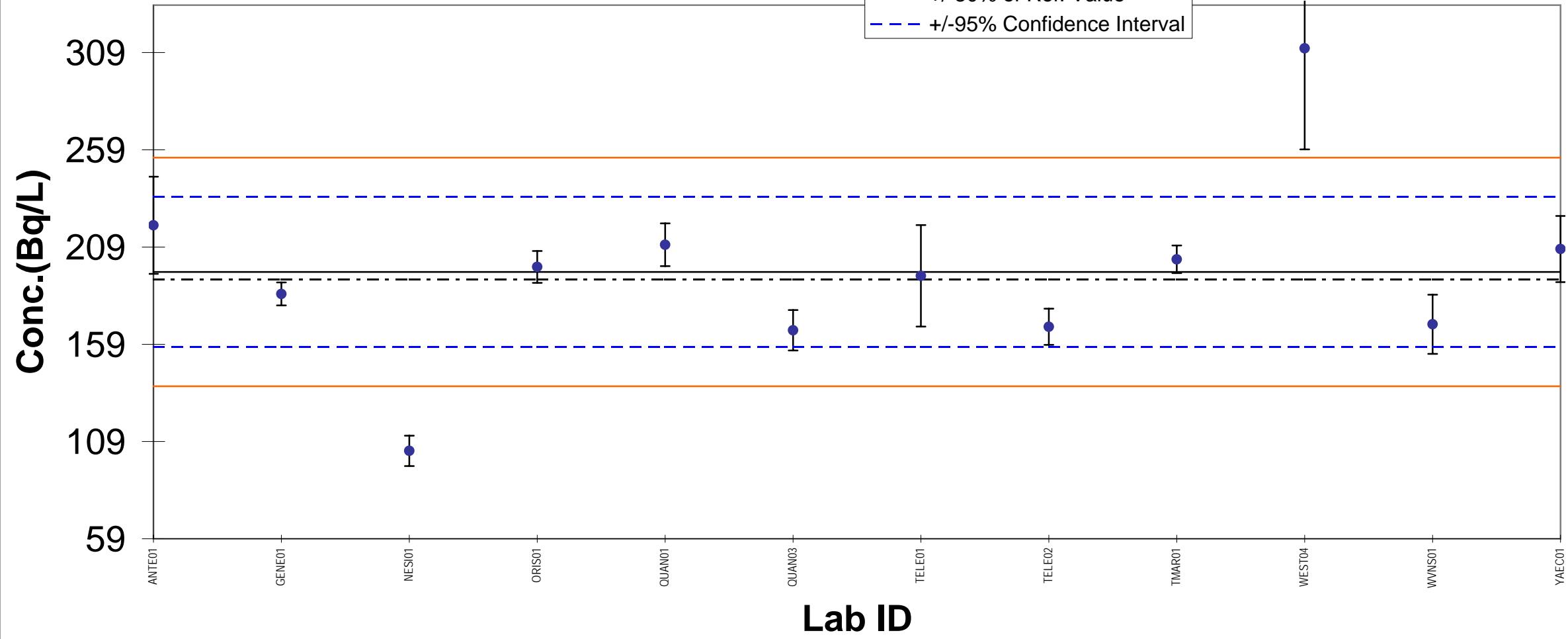


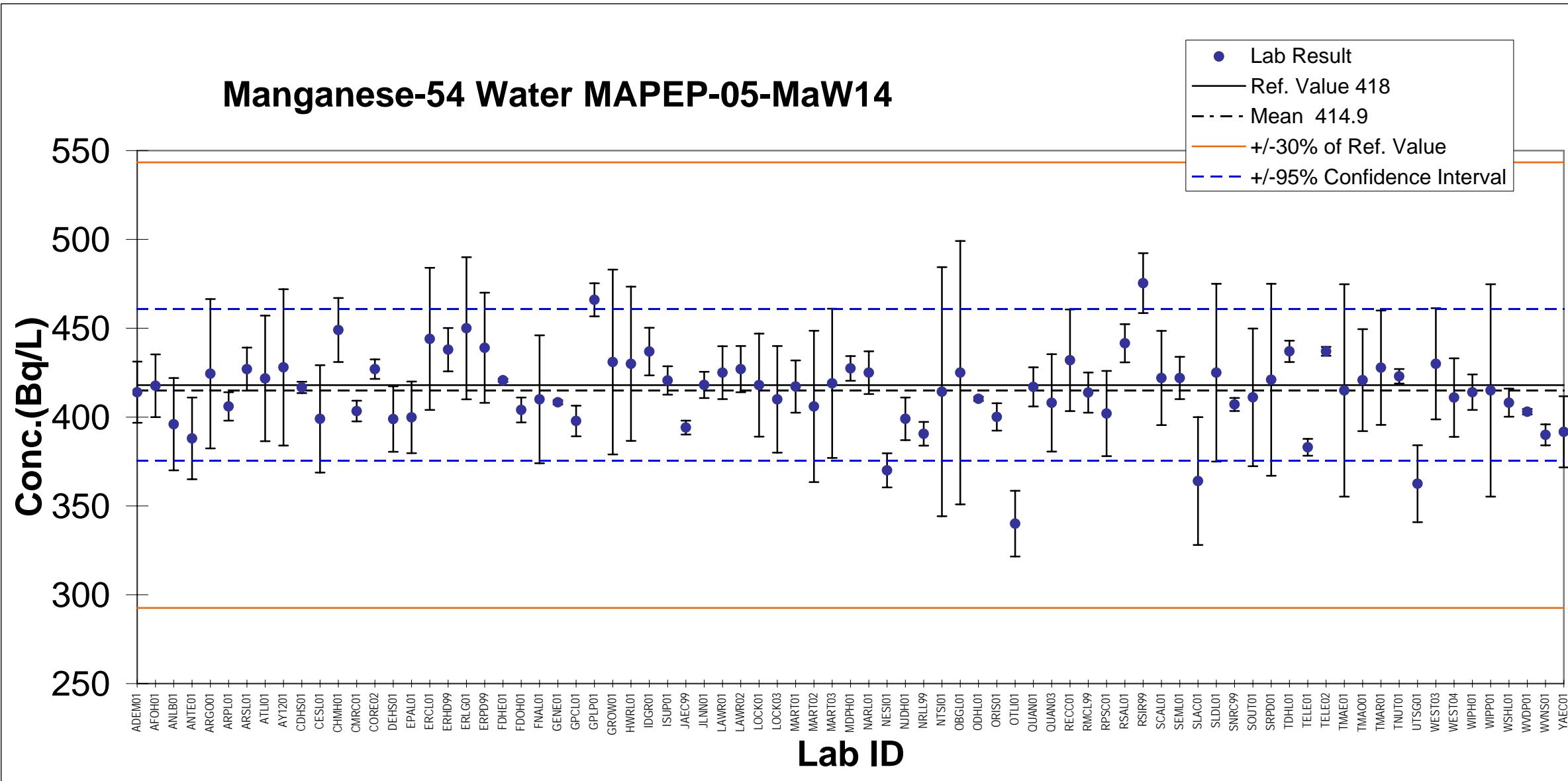
Hydrogen-3 Water MAPEP-05-MaW14



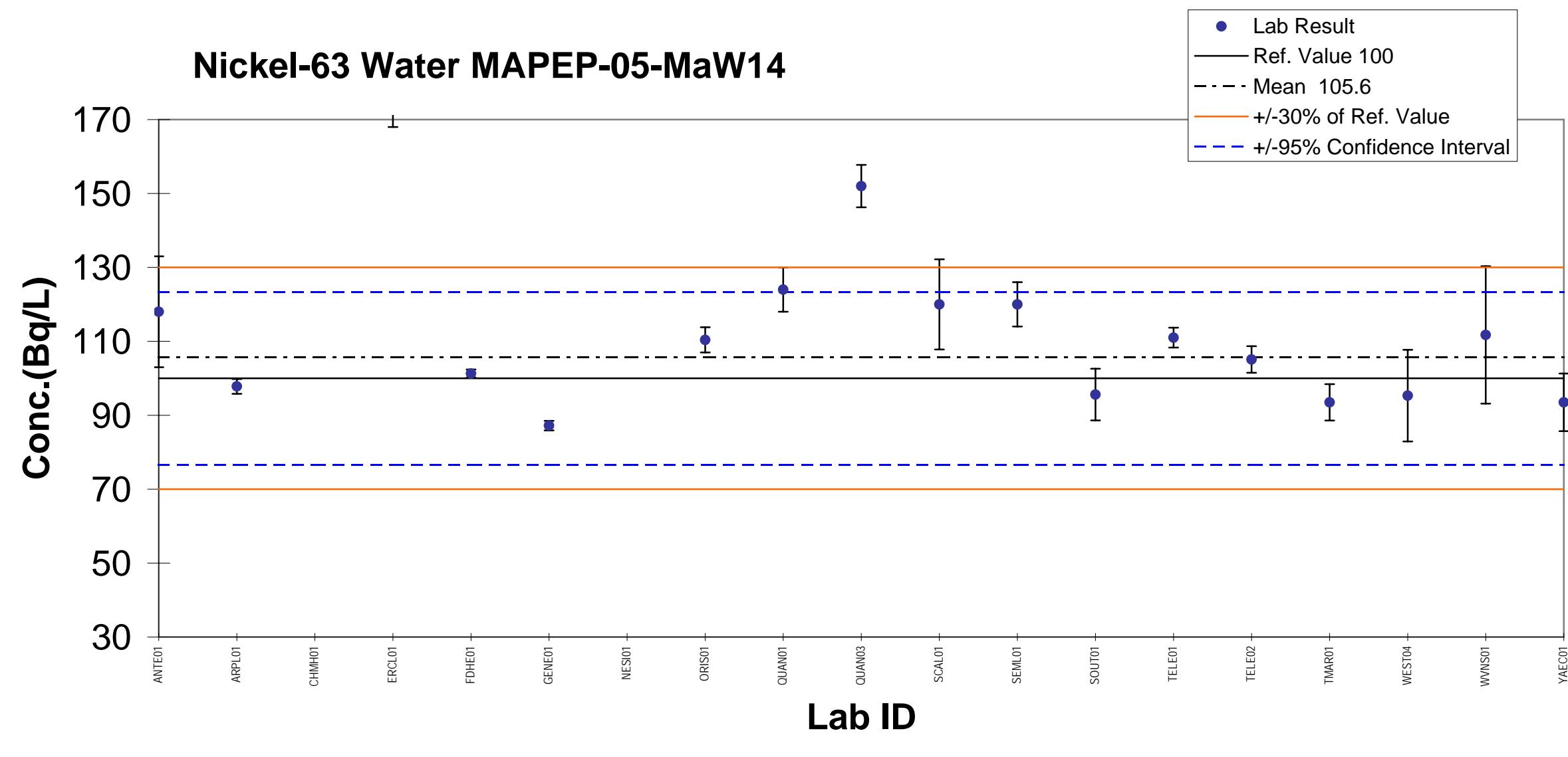
Iron-55 Water MAPEP-05-MaW14

● Lab Result
— Ref. Value 196
- - - Mean 192.0
— +/−30% of Ref. Value
- - - +/−95% Confidence Interval

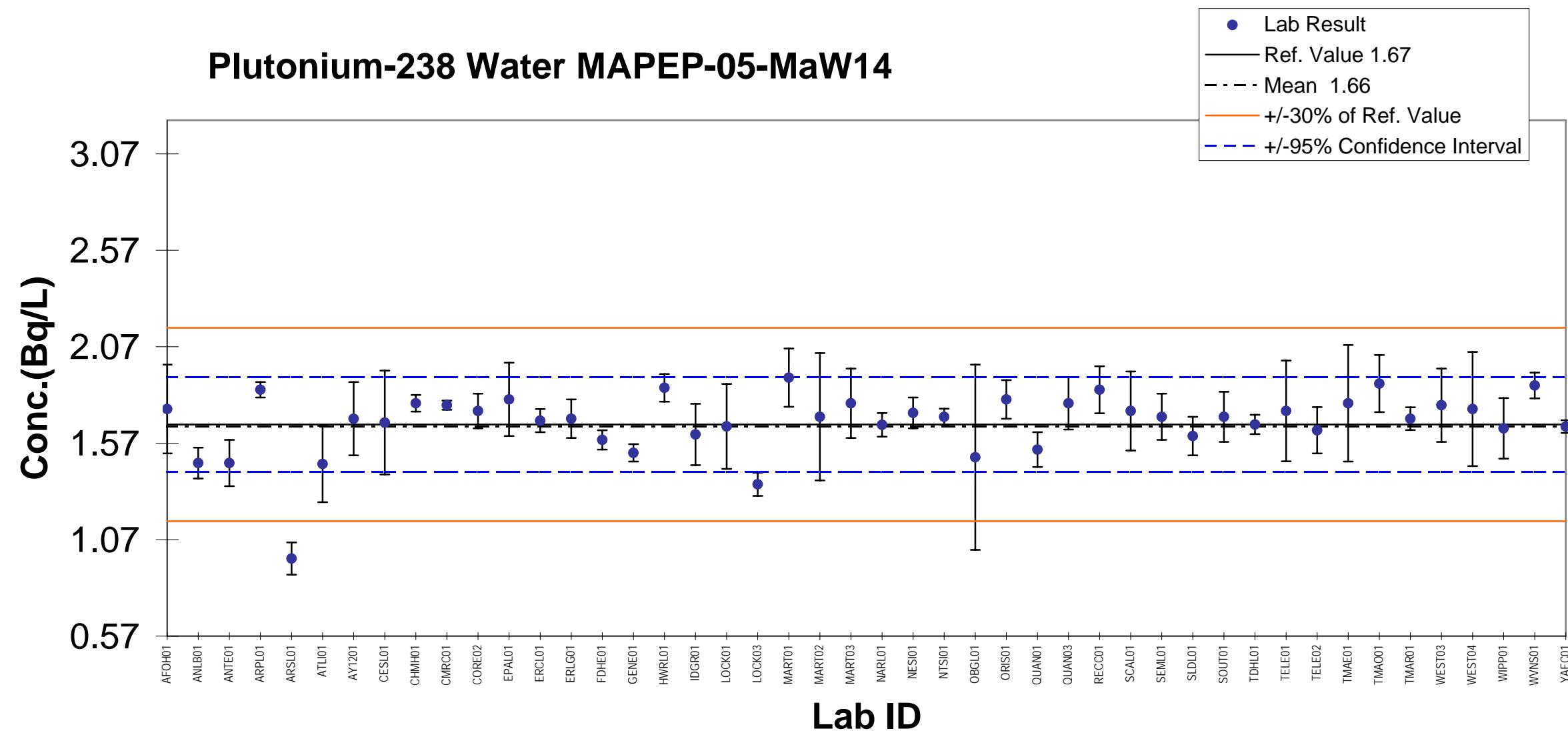




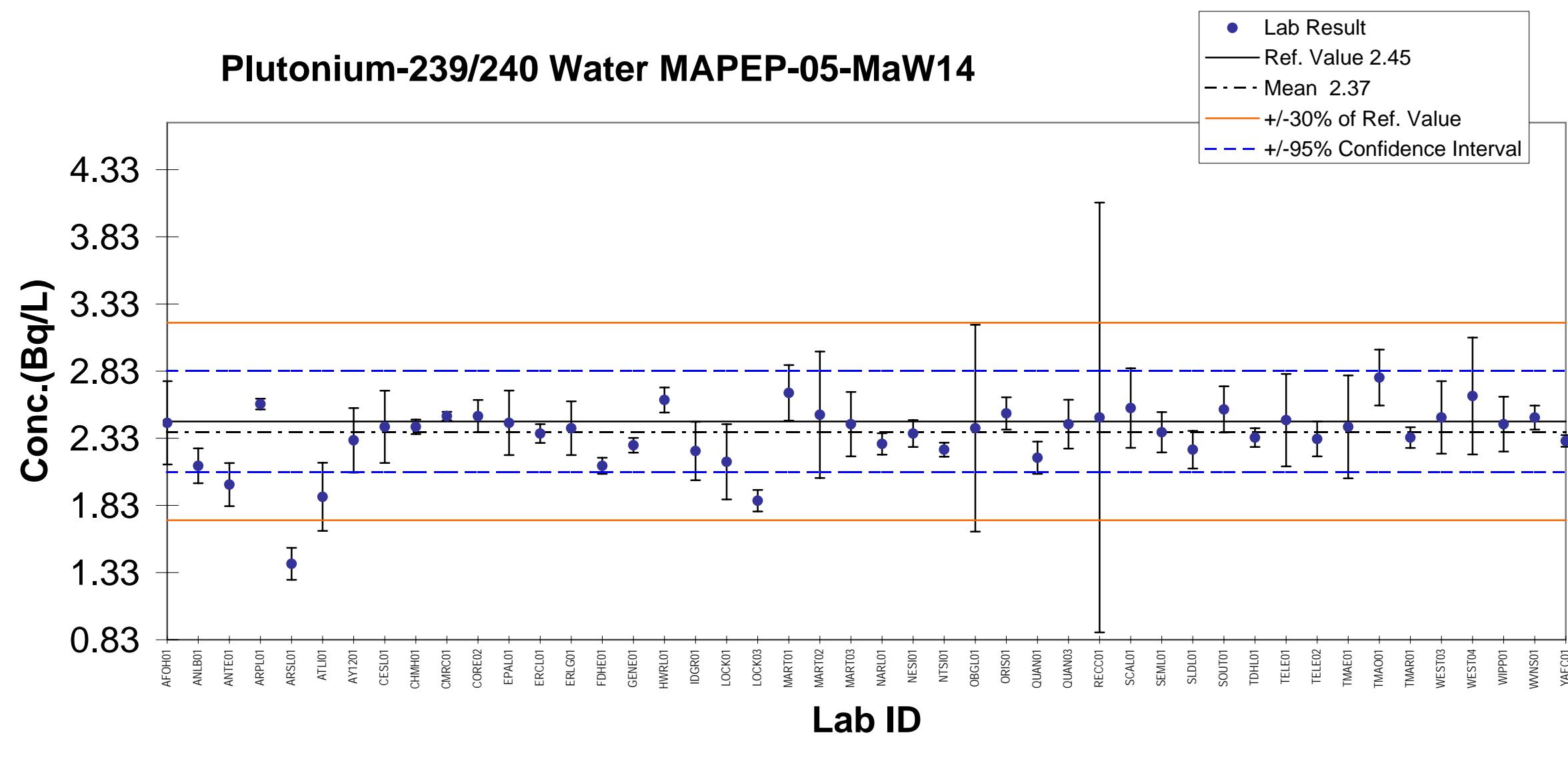
Nickel-63 Water MAPEP-05-MaW14

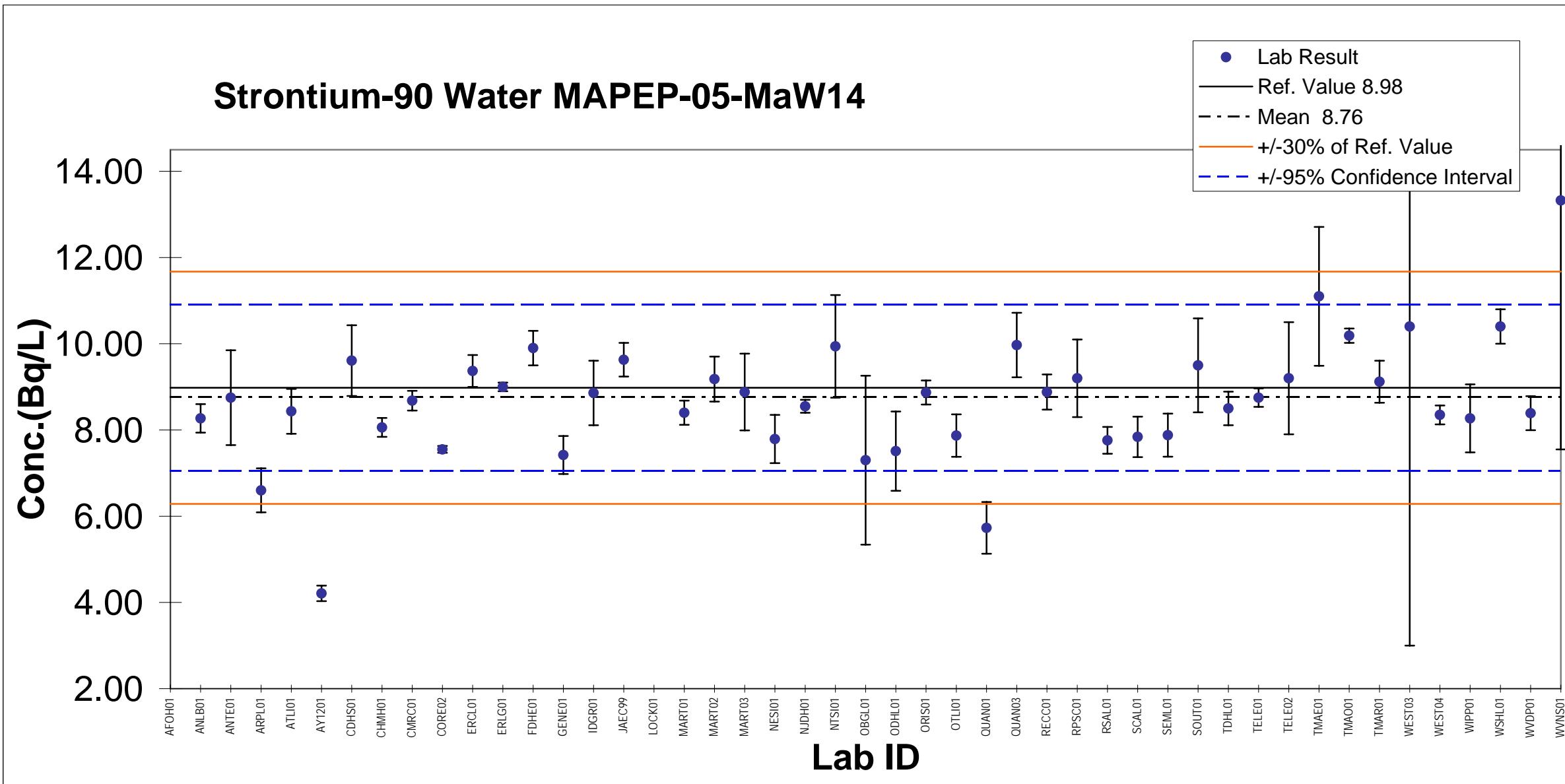


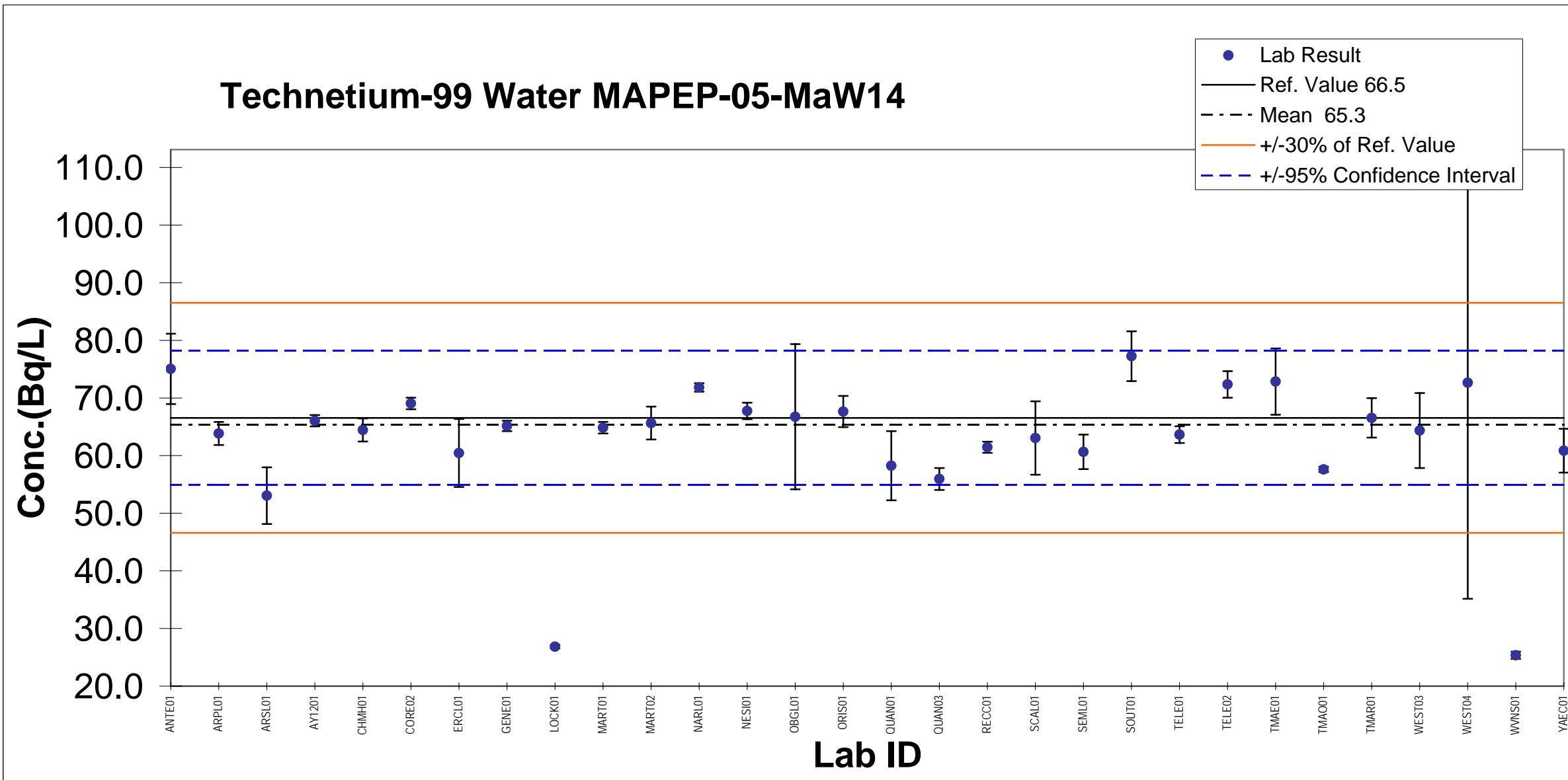
Plutonium-238 Water MAPEP-05-MaW14



Plutonium-239/240 Water MAPEP-05-MaW14







Uranium-234/233 Water MAPEP-05-MaW14

